DOCUMENT RESUME

ED 244 747 RC 014 260

AUTHOR	Valencia, Richard R.; Cruz, Josue, Jr.
TITLE	Mexican-American Mothers' Estimations of Their Preschool Children's Cognitive Performance. Final Technical Report.
INSTITUTION	Administration for Children, Youth, and Families (DHEW), Washington, D.C.
PUB DATE	Jul 81
CONTRACT	90-C-1777
NOTE	372p.
PUB TYPE	Reports - Research/Technical (143) -- Tests/Evaluation Instruments (160)
EDRS PRICE	MF01/PC15 Plus Postage.
DESCRIPTORS	Academic Achievement; *Cognitive Ability; Cognitive Tests; Comparative Analysis; Family Characteristics; *Family Environment; Literature Reviews; *Measures (Individuals); Mexican American Education; *Mexican Americans; *Mother Attitudes; Mothers; *Preschool Children; Questionnaires; Spanish Speaking
IDENTIFIERS	*McCarthy Scales of Childrens Abilities

ABSTRACT

A study investigated 261 Mexican American mothers' estimations of their preschool children's cognitive performance. Existing literature on parental estimations was reviewed. The McCarthy Scales of Children's Abilities (MSCA) were administered to 107 boys and 154 girls, ranging from 32 to 75 months of age. The children's mothers were then asked how they thought their children performed on the MSCA, item by item. At the same session, family background data were obtained and the mothers were interviewed, using a home environmental instrument. Major findings were that mothers tended to overestimate children's performance in general intellectual functioning and between/within MSCA areas; mothers were fairly accurate in their estimations when several accuracy indexes were used; mothers who tended to give higher estimations had more exposure to the culture of schools (e.g., English-speaking rather than Spanish-speaking, United States-born rather than Mexican-born, higher schooling attainment); as mothers' estimations increased, intellectual climate of the home environment increased; and as maternal inaccuracy of estimations increased, children's MSCA performance tended to decrease. The major conclusion was that Mexican American mothers were subject to similar estimation patterns as those observed in the existing literature. Appendices include English and Spanish versions of the maternal MSCA, family data questionnaire, and home environment instrument. (MH/Author)

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MEXICAN AMERICAN MOTHERS' ESTIMATIONS OF THEIR PRESCHOOL CHILDREN'S COGNITIVE PERFORMANCE

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Final technical report (contract 90-C-1777) submitted to Administration for Children, Youth, and Families, Office of Human Development Services, U.S. Department of Health, Education, and Welfare, July, 1981.

RC 014260

ACKNOWLEDGEMENTS

This investigation could not have been possible without the assistance and cooperation of a number of people. First, our appreciation is extended to the Administration for Children, Youth, and Families who funded the project and to Dr. Maiso Bryant who served as Project Officer.

Our deep gratitude goes to our outstanding project staff. LaVerne Apodaca, Sonia Lomeli, and Gil García served as office staff and did excellent work. Special thanks goes to Steve Kair who assisted with instrument development and preliminary statistical analyses and to Juana Mora who assisted in site identification and was a great help in obtaining permission from the preschool directors. To Cindy O'Brien, thank you for coding the data. To the people in the field who tested the children and interviewed the mothers--Evelyn Jiménez, Rosamaría Morales, Romelia Morales, Beatriz Raswan, and Rosario Quezada--a very, very sincere thank you is extended. Appreciation also goes to Paul Hartnett and Sally Zurita who served as research assistants at UC Santa Cruz.

Warm appreciation is also expressed to the Center for Chicano Studies staff at the University of California at Santa Barbara who administered the grant. Thank you, Wanda Michalenko, Cecelia Rios, and Rita Ybarra.

A very special thank you is expressed to Fernando DeNechochea, the Associate Director of the Center for Chicano Studies.

To our project consultants--Dr. Ronald W. Henderson, Dr. Robert Sheehan, and Al Stewart--your expertise and guidance were greatly appreciated.

Our thanks is extended to the many preschool directors and teachers who allowed their schools to be participants in the project.

To Cathy Clausen of the UCSC Oakes College Services to Academic Staff office, thank you very much for typing the report.

Finally, our warmest and deepest appreciation is extended to the many mothers and children who participated in the study. Without you there would have been no project. Muchísimas, gracias.

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ABSTRACT

The present investigation sought to examine Mexican American mothers' estimations of their children's cognitive performance. Two major purposes inspired the present research. First, the study of culturally diverse groups is clearly absent in the parental estimations literature. Second, the role of parents' perceptions of their children's cognitive performance is an important factor in the study of familial and sociocultural influences related to the intellectual functioning and development of young Mexican American children.

The procedure of the study involved the administration of the McCarthy Scales of Children's Abilities (MSCA) to 261 Mexican American preschool boys and girls. Shortly after testing, the mothers of the children were "administered" the MSCA and asked how they thought their children performed, item-by-item. At the session with the mothers, family background data was obtained and the mothers were also interviewed using a home environmental instrument (Henderson Environmental Learning Process Scale-Revised; HELPS-R).

Four research questions were asked: (1) how do maternal general cognitive estimations of their children's performance compare with the children's actual performance?; (2) how do maternal estimations vary between and within

MSCA cognitive areas?; (3) how are family structural variables related to maternal estimations?; (4) how is the home environmental variable related to maternal estimations?

The major findings were as follows: (1) mothers tended to overestimate their children's performance in general intellectual functioning and between and within MSCA areas; (2) using several accuracy indexes, it was generally found that mothers were fairly accurate in their estimations; (3) mothers who tended to give higher estimations were characterized as having more exposure to the culture of the schools (e.g., English-speaking as opposed to Spanish-speaking, born in U.S.A. as opposed to being born in Mexico, having higher schooling attainment as opposed to lower schooling attainment); (4) as mothers' estimations increased, there was a tendency for the intellectual climate of the home environment to increase; (5) as maternal inaccuracy of estimations increased, there was a tendency for children's MSCA performance to decrease.

The major conclusion of the investigation was that Mexican American mothers were subject to similar estimation patterns seen in the existing literature (e.g., overestimation, fair accuracy of estimations). Several hypotheses are advanced to explain why mothers who have been more exposed to school culture tended to give higher estimations of their children's intellectual functioning.

The policy implication was that Mexican American mothers are credible sources of data and should be included in the development of multi-measurement systems that are designed to allow for culturally diverse responses in the assessment process.

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INTRODUCTION

The Nature of Inferences

One of the most common phenomenon of interpersonal relations is that in our everyday interactions with others we all make inferences about people based on what we see of them, hear about them, or even read about them. Inferences that teachers make about a student's reading capability, a parent's assessment about an infant's locomotor development, and even conceptions we hold of ourselves are simply special cases of this common human phenomenon. Notwithstanding the ubiquity and normality of this interpersonal behavior, the explanatory and predictive aspects of the formation of inferences and perceptions of others are indeed complex. What are the motivational bases of developing inferences of other's behaviors? Which data do we rely on to make our inferences? How accurate are we in our inferences? Do we ever change them? Can the inferences we make of others thwart or optimize human development? These are some of the questions social scientists have investigated.

Brophy and Good (1974), who have done extensive work on teacher-student relationships, have pointed out that inferences we make of others are normal, common, and in themselves are value free. However, inferences do have potential for interfering with optimal human development and performance when they are inaccurate and inflexible. Brophy and Good, focusing on teacher expectations of students, argued that when expectations are initially inaccurate and inflexible they can serve as causal factors. When this occurs, that is when an expectation functions as an antecedent of behavior, the expectation can function as a self-fulfilling prophecy. For example, a teacher might hold a rigidly inaccurate (extremely low) expectation of a student. Over time, this false and inflexible inference may result in the student achieving significantly less than he/she actually is able to do. It is this case of low expectations and differential and negative treatment of students that has been advanced by some researchers to help explain, in part, the poor schooling achievement of some ethnic minority groups (e.g., Coates, 1972; Datta, Schaefer, & Davis, 1968; Leacock, 1969; Rist, 1970; Rubovits & Maehr, 1973; U.S. Commission on Civil Rights, 1973).

The concern for the welfare and development of young children took new trends in the late 1960s and early 1970s. One major trend was a shift and expansion from a school focus to a home focus, particularly in "parent education" and "parent involvement" activities (Gordon, 1973). As part of this home focus was an attempt to investigate parent's perceptions of their children. The major assumption guiding this research was the same assumption that guided the school-based teacher expectancy research: the inferences parents make of their children's performance and development play vital roles in parent-child interactions and subsequent child behavior. Two major categories of investigations emerged from this parental research: (1) one body of research (beginning around the mid 1950s) was largely concerned with parental *estimations* of their children's *current intellectual functioning*, and (2) another body of studies (also having roots in the 1950s) was more concerned with parents' *expectations and aspirations* of their children's *academic achievement and schooling attainment*. This latter body of research (e.g., Callard, 1968; Dole, 1973; Hutner, 1972; Finalyson, 1971; Sewell & Shah, 1968) was largely involved in investigating such aspects, for example, as parental achievement expectancies and schooling aspiration levels for their children.

Estimations vs. Expectations

The first category of research described above, parental estimations of their children's current intellectual functioning, is the focus of the present investigation. Before describing the nature of this area of research and the purposes of the present study, it is necessary to make a sharp conceptual distinction between "estimation" and "expectation." Wolfensberger and Kurtz (1971) made a distinction between "parental concurrent realism" and "parental predictive realism." Concurrent realism was defined as a parent's evaluation or estimation of his/her child's concurrent (present) performance or developmental level. On the other hand, predictive realism was defined as the parent's expectation of the child's future attainment or development. In the present investigation, since the behavior to be assessed is the child's present development (as opposed to future behavior or development) the term maternal estimation will operationally be defined as:

> A maternal estimation is an assessment of a child's current intellectual functioning level.

Categorization of Parental Estimations Research

The first bona fide study of parental estimations was the investigation by Ewert and Green (1957). Since then, the research has expanded to cover various objectives, age levels of children, assessment instruments and techniques, and intellectual functioning levels of children.[1] Initially, the focus of parental estimations research was largely restricted to the study of how parents' assessments of their mentally retarded children were related to how well parents accepted their children's retardation. Over the years, the state of the art has expanded to include populations of normal children, a focus on the development of pre-screening techniques using parents' estimations, and the comparison of parents with traditional data sources in the assessment process. Albeit overlap, the following areas appear to be the major areas of parental estimations research:

- pre-screening--these studies seek to investigate the efficacy of using parents in the identification of high-risk children that might require further evaluation (e.g., Frankenburg, van Doorninck, Lidell, & Dick, 1976).
- parental-professional congruency--in these investigations, the purpose is to see how well the parents' estimations compare with those estimations made by professionals (e.g., Keith & Markie, 1969).

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[1] A comprehensive review of the literature is presented in pages 14-46.

- relation between demographic variables and estimations--the purpose of the studies in this group is to examine how certain demographic variables (e.g., schooling attainment of mother) is related to level and accuracy of estimations of the child's intelligence (e.g., Wolfensberger & Kurtz, 1971).
- predictive validity--this type of study is concerned with examining how well parental estimations predict future behavior (e.g., Colligan, 1976).
- intellectual development of children--in this category, the purpose of the research is to investigate how parents' estimations (level and accuracy) are related to the fostering or thwarting of children's development (e.g., Hunt & Paraskevopoulos, 1980).

The Values of Parental Estimations Research

Taken as a whole and in the broadest sense, parental estimations research has great potential for adding new knowledge to the varied fields of social psychology and child development, particularly in the areas of attribution theory, congruity or incongruity between socialization agents, psychoeducational diagnoses, achievement motivation, processes involved in learning and teaching in different settings, assessment in early childhood, and cognitive development of young children.

The values of parental estimations research can be made clearer by analyzing the existing state of the art. A major finding of the research is that parental estimations of their children's intellectual functioning and development are fairly accurate compared to traditional data sources (e.g., trained diagnosticians). As pointed out by Gradel, Thompson, and Sheehan (1980), parental estimations provides a wealthier data base in the assessment of children and the credibility of such data is improved. In other words, if parental estimations are relatively accurate compared to other sources, then the assessment process can be improved by the inclusion of parents. This presents a new and important departure from the way we have typically viewed assessment instruments and procedures. From an economic point of view, there is some evidence that the inclusion of parents in the assessment process is advantageous. For example, in the study by Frankenburg, et al. (1976), the need for further screening by professional diagnosticians of infants for developmental problems was decreased by 69% when parents were utilized as pre-screeners.

Another value of doing research on parental estimations is concerned with a second major finding in the literature: parents consistently overestimate the intellectual functioning of their children. The phenomenon of parental overestimation is so consistent that it runs across age levels of children, intellectual functioning levels, gender of children, and several demographic variables. Of particular interest are those studies that compare parent's estimations of the child with teacher's estimations of the child. The finding that teachers generally give lower estimations than parents raises important questions regarding why such differences occur, who is more accurate, and effects on the child's development.

A third value of parental estimations research is related to a very important issue in assessment--the psychoeducational assessment of children from culturally and linguistically diverse groups. Discriminatory assessment can occur in a number of ways. Reschly (1979) has pointed out that bias in assessment can occur in instrumentation (test bias), in the testing setting (atmosphere bias), and in how assessment results are used (bias in use). An assessment procedure that incorporates minority parents has some potential in minimizing such bias. In a positive sense, parental estimations research using minority parents and children can provide us with more information on across-setting validity and as a way of researching ways to develop strategies that allow for cultural diversity in the assessment process.

Conceptions of Accuracy

Before closing this introductory section with a discussion of the purposes of the present study, it is necessary to present a brief discussion on how accuracy in estimations research is conceptualized. Investigators of estimations research have not only been interested in the levels of parent's estimations (or other data sources), but researchers have also sought to examine the degree of accuracy of such estimations.

It should be emphasized that accuracy in estimations research is a complex index to measure. Perhaps that is why there are different ways of looking at accuracy. According to Dr. Robert Sheehan, consultant to the project, there are at least four indexes of accuracy that have been used and can be used (singularly, all, or in a variety of combinations) in estimations research.[2] They are as follows and ask these questions:

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[2] Personal communication with Dr. Robert Sheehan, Purdue University, July 1980.

1. absolute accuracy--are there absolute differences in the mean scores (e.g., between mothers' estimations of their children's performance and children's actual performance)? The less the difference, the greater the accuracy (and vice versa, the greater the difference, the less the accuracy).
2. statistical chance accuracy--do the mean differences exceed statistical probability? A nonsignificant difference would represent accuracy. For statistically significant differences, greater p values are associated with greater inaccuracy.
3. predictive ability accuracy--how well do mothers' estimations, for example, correlate with children's scores? That is, how well do mothers predict children's scores regarding the direction and magnitude of the relation? Generally speaking, the higher the correlation the greater the accuracy. In a stricter sense, highest accuracy is associated with a high correlation and no significant difference. Lowest accuracy is associated with a low correlation and a significant difference.

4. item-by-item accuracy--on an item-by-item comparison, what is the percentage of agreement between data sources (e.g., mother and child)? The higher the percentage the higher the accuracy; the lower the percentage, the lower the accuracy.

In an estimations research investigation, it is probably more meaningful when assessing accuracy of estimations between or among data sources to use as many of the four accuracy indexes as possible. Reliance on only one index could result in a narrow and misleading interpretation of accuracy.

Purposes of the Investigation

The present investigation was conceptualized because of two major reasons. First, a comprehensive review of the parental estimations research has shown that the study of families from culturally diverse groups is clearly absent. In fact, regarding United States studies, no investigations were located in which Asian Americans, Blacks, Native Americans, and Mexican Americans were subjects. Therefore, the present study of Mexican American mothers and their children should be seen as an attempt to collect base line data, and thus the data analyses were largely designed to report descriptive results.

A second reason which inspired this investigation is the pressing need to generate new knowledge in the area of familial and sociocultural factors related to the intellectual functioning and development of young Mexican American children. Compared to the general state of the art, cognitive research on Mexican American children and their families is an impoverished area. Valencia (1981) has pointed out that prior to about 1960, cognitive research on Mexican American children was dominated by investigations which examined the performance of these children on standardized intelligence tests. During the last two decades, cognitive research on Mexican American children has expanded to include such concerns as cognitive styles, psychometric assessment of instruments, nondiscriminatory assessment, maternal teaching styles, family constellation, examiner effects, and so on. Notwithstanding this important expansion of cognitive research, we still know very little about the cognitive functioning and development of Mexican American children, particularly in the area of familial and sociocultural influences. Longitudinal research is virtually nonexistent.

In light of these issues, the present investigation was designed. Four major research questions were advanced for study. They are as follows:

1. How do the perceived cognitive estimations given by the mothers compare with the actual cognitive performances of their children?
2. How do the estimations given by the mothers vary between and within cognitive areas?
3. How are family structural variables under study related to mothers' estimations?
4. How is the social psychological variable of the home environment related to mothers' estimations?

Before the method used in the present study is described, a review of the available parental estimations literature is presented.

REVIEW OF THE PARENTAL ESTIMATIONS LITERATURE

The following review of the literature dealing with parental estimations of their children's current intellectual functioning and/or development does not purport to be an exhaustive review. Rather, it contains representative studies covering a wide span of time (1957 to 1980), purposes, age levels, assessment instruments and techniques, and intellectual functioning levels of children, and implications. In all, twenty studies are reviewed, most of them in detail. Thirteen of the investigations can best be categorized as studies of "exceptional populations," mostly of children who were classified as mentally retarded. The major reason that exceptional populations comprise the bulk of the existing literature is that the earliest studies of parental estimations come from clinical psychologists who sought to study the issues involved in parents' acceptance of their children's retarded condition. The major question focused on factors related to the parent's accuracy in making evaluations of the child's level of retardation and how such degrees of accuracy might be related to acceptance or realization of the child's retardation. The general implications of such research have appeared to be related to guidance facilitation of parents of mentally retarded and other handicapped children and the improvement of screening techniques for high-risk children. For an excellent literature review of the early years, the reader is referred to Wolfensberger and Kurtz (1971).

Although the study of exceptional populations is still a strong focus in the current literature, the study of "normal populations" (first appearing around 1969) is slowly but steadily growing. The subjects of the normal populations studies are very homogeneous (nearly all preschoolers), and the focus is more on the investigation of how parents' estimations and their accuracy are related to either fostering or thwarting their children's development.

As a whole, the parental estimations research in both exceptional and normal populations is currently being looked at as a way of improving the assessment process. Terms such as "multiple data sources of assessment," "multidisciplinary evaluation," "multifactor assessment," "multi-measurement system," and "across-setting evaluation" are beginning to appear with some regularity in the literature.

For the sake of convenience and clarity, the following literature review is divided into two categories--studies of exceptional populations and normal populations.

Exceptional Populations

Thirteen studies are reviewed in this category. In yearly chronological order they are as follows: Ewert and Green (1957); Johnson and Capobianco (1957); Capobianco and Knox (1964); Keith and Markie (1969); Schulman and Stern (1969); Carey (1970); Wolfensberger and Kurtz (1971); Tew, Laurence, and Samuel (1974); Gould (1975); Dopheide and Dallinger (1976); Frankenburg, van Doorninck, Liddell, and Dick (1976); Adelman, Taylor, Fuller, and Nelson (1979); Gradel, Thompson, and Sheehan (1980). The majority of the children in these studies were handicapped children (mostly mentally retarded). In several studies, many of the children were normal, but such investigations were included in the exceptional populations category because the intent of the studies was to develop screening techniques for high-risk children. Finally, compared to the children in the normal populations category, the children in the exceptional populations group are more variable in chronological age, ranging from infants to teenagers.

According to Wolfensberger and Kurtz (1971), the study by Ewert and Green (1957)was the first published report of a *bona fide* empirical investigation of parental estimations of children's current functioning. It was a breakthrough because the basic technique of computing developmental quotients from parental age estimates was quantifiable and such estimates could be compared to the children's actual performance. The study by Ewert and Green was an attempt to investigate the relation between a number of factors and the accuracy of mothers' estimates of the children's current mental functioning level. The children were 100 retarded children who were out-patients. Based on a medical examination, 50 of the children were classified as simple retardates and 50 as organic retardates. The age range of the children was 1 year 4 months to 14 years 6 months, with a mean of 6 years 4 months. The children were administered one or more of the following tests: Vineland, Cattell, Stanford-Binet, and the WISC. The mothers was asked to estimate the child's mental age; this in turn was converted into an estimated IQ (MA/CA x 100). Based on the maternal estimates compared to the children's IQs, the mothers were divided into two groups: "accurate" raters, whose estimates did not vary more than 15 IQ points from the tested IQ, and "erroneous" raters, whose estimates differed 16 IQ points or more.

The major findings were as follows: (1) the mean maternal IQ estimate was 58, and the mean tested IQ was 44.1; (2) 30 of the 50 children with simple retardation were "accurately" rated while 33 of 50 of the organic retardates were so rated; (3) although nonsignificant, more boys were rated accurately (70%) compared to girls (57%); (4) the r between maternal estimates and tested IQs were .55, .93, and .27 for the whole group, for the group in which estimations were accurate, and for the group in which mothers were erroneous, respectively; (5) for the organic retardates, accurate mothers were significantly younger than erroneous mothers; (6) as a whole, there was a significant and positive relation between accuracy and mothers' educational attainment; (7) as a whole, mothers of higher social class (based on occupation) were more accurate (but nonsignificant); (8) for organic retardates, younger children were significantly rated more accurately; (9) although nonsignificant, children whose IQs had been rated erroneously, largely were first birth order children; (10) although the accuracy was not determined, motor development and general comprehension were reported as most advanced by parents, and verbal ability and physical development as being most retarded.

The investigation by Johnson and Capobianco (1957; cited in Wolfensberger & Kurtz, 1971), was another major breakthrough in parental estimations research because of the methodology used. In this study, the authors presented a record form of Stanford-Binet items, arranged by content and type, to 15 parents of retarded children.

The parents were instructed to answer each test item as they thought their children would respond. After the parents responded, "parental IQs" were computed and compared to the children's actual performance. This item-by-item technique is the technique employed in the present study of Mexican American mothers' estimations of their children's intellectual performance.

The results of the Johnson and Capobianco (1957) study showed that the average difference of parental to children responses amounted to only four IQ points with parental overestimation being more frequent than underestimation.

Capobianco and Knox (1964) used the technique developed by Johnson and Capobianco (1957). The subjects were 30 fathers and 36 mothers of mentally retarded children (age range and mean were 5 years 2 months to 17 years 6 months and 11 years 7 months, respectively). A modified version of the Stanford-Binet was used.

Results of the study revealed the following: (1) the mean of the mothers' IQ estimation was 67.7 compared to the children's mean of 61.1, a significant difference; (2) the mean of the fathers (61.7) was not significantly from the children's mean IQ; (3) the mean IQ of the mothers was significantly different from the mean of the fathers. Although the authors concluded that the findings did not substantiate the accuracy of parents reported in previous research (e.g., Ewert & Green, 1957), Wolfensberger and Kurtz (1971) in their review argued that this was a questionable conclusion. They argued that the Capobianco and Knox technique was not comparable to techniques used by other researchers and the criteria for the interpretation of results were different.

The purpose of the investigation by Keith and Markie (1969) was to compare the parental and professional assessment of functioning in 17 cerebral palsied children attending a nursery school in a medical rehabilitation center. Using the preschool form of the Age Independence Scale (AIS), a measure designed to assess age levels of independence concerned with motor, cognitive, social, and self-care behaviors, parents (mothers and fathers) were independently compared to professionals (pediatrician, nursery school teacher, physical therapist, and occupational therapist) with respect to ratings of the children's behaviors. Assessments of "present functioning" and "predictions of future functioning" were made and compared. For the present functioning aspect, the mothers had the highest opinion of what their children could do. The nursery school teachers gave the lowest ratings. There were significant differences between the various professionals with the estimates given by the pediatrician and physical therapist very similar to estimates given by the parents. Comparison of combined parents' ratings with combined professional staff ratings showed a significant difference in favor of the parents, meaning parents believed their children capable of more independent behavior than judged by staff. No significant differences were found between mothers and fathers. For the predictions of future functioning, the same general pattern of results emerged. Compared to the staff, the parents predicted significantly lower ages for the onset of behaviors. Within-group staff differences were also found, but this time the pediatrician and occupational therapist estimated later ages for independent behaviors than did the nursery school teacher and physical therapist. To study the assumption that parents would consistently overestimate the capabilities of their children in comparison to professional judgments, parental overestimation was studied for three dimensions (age of child--younger vs. older children; degree of handicap--less severe vs. more severe; developmental quotient--lower vs. higher). It was found that only in the developmental quotient category did parents significantly overestimate. That is, the parents of the lower IQ children rated their children as performing, on the average, more independent behaviors in present and future functioning. The authors concluded by cautioning that the direction of overestimation throughout the study was masked by inconsistencies (7 of 17 sets of parents rated the children's current performance lower than the staff judgments, for example). Therefore, mean analyses can be misleading in some studies.

Schulman and Stern's (1969) study involved parents' estimations of their retarded children's intelligence level. The 50 children in the study ranged in age from 3 years 3 months to 12 years and 10 months; the mean age was 5 years and 8 months. Prior to testing the children (35 were tested on the Stanford-Binet, 12 on the Gesell Developmental Schedule, 2 on both Stanford-Binet and Gesell and 1 child on the Vineland Social Maturity Scale), the parents of the children were asked to estimate the developmental age of their children (actually, the informants were 36 mothers, 7 cases in which both mother and father estimated, 4 fathers, and in one case each from a sister, aunt, and a grandmother). The informants were asked gross developmental questions, such as, "Your child is ____ years old. At what age would you estimate he is functioning?" The parents' mental age estimate was converted into an "IQ" by dividing the estimate by the chronological age and multiplying by 100. The results of the comparisons showed that the mean of the test IQ was 55.5, and the mean

IQ estimated by the parents was 57.2. The r between the test IQ and "parent IQ" was a significant .67. In 23 cases the parents overestimated their children's IQ by 12.6 points, and in 19 cases the parents underestimated by 10.7 IQ points. The authors concluded that the results clearly indicate that there is no basis for the widely held belief that parents are not aware of their children's mental retardation before professional help is sought.

Carey's (1970) investigation was an attempt to develop a simplified method for measuring infant temperament, particularly identifying the presence or absence of the "difficult baby syndrome" (e.g., irregular, unadaptable, intense). The mothers (n=101) were asked to fill out a short questionnaire consisting of 70 temperament questions; the age range of the infants was 4 to 8 months. The mothers were also interviewed to obtain their general impressions of their babies. The findings were that the questionnaire measured and yielded approximately the same behavior as the interview, although the general impressions gathered by the latter were somewhat inadequately differentiated for the difficult baby syndrome. The author recommended that pediatricians use multiple data sources, such as those presented in his study, to make diagnoses more credible.

The research by Wolfensberger and Kurtz (1971) is perhaps the most comprehensive and conscientious study done on parental estimations. It is a pioneering study in that it tackles the difficult areas of defining parents' perceptions, developing assessment techniques, and gathering data on parental perceptions of their children's development. As previously discussed (see page 4), Wolfensberger and Kurtz (1971) made a sharp distinction between "concurrent parental realism" and "predictive parental realism." The former notion is concerned with the parent's perceptions (estimations) of the child's concurrent or present functioning/development. The latter, "predictive realism," deals with the parent's perceptions (expectations) of the child's future functioning/development. Only the part of Wolfensberger and Kurtz's study that dealt with concurrent realism will be discussed here. The subjects were 190 parents (111 fathers and 79 mothers) of young boys and girls who were moderately retarded (mean IQ of 58.54). The age range was .58 to 15.5 years with a mean of 5.76 years. The parents of the children varied on a number of characteristics, including the following: schooling attainment, occupation, income, SES, rural-urban residence, age, religion, and ethnicity. The children were tested on 8 major areas: (1) understanding of verbal communications; auditory decoding; (2) verbal and preverbal expression; verbal encoding; (3) gross motor development and coordination; (4) manual dexterity and eye-hand coordination; (5) self-help; (6) play, occupation, and prevocational and vocational development; (7) general intellectual functioning; (8) achievement.

Although the parents tended to overestimate slightly in expressive and receptive communicative skills and less so in manual dexterity, gross motor, and general intelligence and tended to underestimate in self-help, occupation, and achievement areas, it was concluded that they were otherwise quite accurate in assessing their children's abilities. The observed correlations between the children's developmental quotients and the parent-derived raw developmental quotients for the 8 areas ranged from .25 to .93 with 5 of 8 areas being in the .5 to .6 range. The *r* between parental estimates and children's general intelligence was .62. No significant differences were found between maternal and paternal concurrent realism for the 8 areas. Intracouple agreement was consistently high and significant (7 of 8 areas). The *r*s ranged between .4 and .6, with an *r* of .50 for general intelligence. Few family demographic variables correlated significantly with concurrent realism. Protestant parents, high SES families, and parents who had less severely retarded children were more realistic (accurate) compared to Catholic parents, low SES families, and parents who had more severely retarded children. The authors major conclusion was that such findings can be of great value in parent management programs (e.g., counseling parents who have unrealistically high or low concurrent realism of their retarded children).

Tew, Laurence, and Samuel (1974) investigated the parental estimates of the intelligence of 57 physically handicapped children. The children, who had spina bifida cystica, ranged in age from 9 years 3 months to 15 years 8 months (the mean was 11 years 7 months). While the children were administered the WISC, the parents (it was not noted whether the mother, father or both were subjects) were asked to complete a detailed questionnaire which largely contained mental age estimate questions. The parent's mental-age estimate was transformed into an IQ score (MA/CA x 100); the result was referred to as the parent quotient (PQ).

One of the major results was the typical parental overestimation. The mean IQ of the children was 84.41, and the mean PQ was 93.04, a nonsignificant difference. An interesting finding was that overestimation was inversely related to the children's IQ. Other findings were: (1) PQ estimates compared to IQs were significantly higher for girls, but not boys; parents gave unusually accurate PQs for boys (mean PQ=93.68, mean IQ=91.52), but gave marked overestimations for girls (mean PQ=91.33, mean IQ=73.04). This finding is best explained by the tendency for parents to give higher estimates for lower functioning children. Also, spina bifida is a condition in which girls are more severely affected than boys; (2) of the 57 children, 40 were enrolled in normal schools, and 17 were in special schools. There was a significant difference between mean PQ and mean IQ for the special school children, but not for normal school children; (3) parents of only one-child families (n=8), showed the highest level of accuracy in PQ; (4) although nonsignificant, there was a tendency for lower social class parents to give higher PQs compared to higher social class parents. The authors suggested that knowledge of a parent's estimate of his/her child can be of value in a counselling situation.

In an investigation that was primarily designed to study the concurrent validity of three tests measuring cognitive and social development of severely retarded British children, Gould (1975) had a substudy pertinent to parental estimations. For each of 75 retarded children, a teacher, child care worker or nurse, and the father or mother, were interviewed using the Vineland Social Maturity Scale. An r of .97 was found between the parents' and teachers' ratings of the same children. The mean social quotients were 34.63 and 32.32 for the parents and teachers, respectively.

The investigation by Dopheide and Dallinger (1976) sought to assess the effectiveness of having parents serve as screeners of articulation development of their children. The children, who were between the ages of 4 years and 6 months to 6 years and 6 months, were participants in a kindergarten registration screening program. Part of the program involved speech and language screening. Prior to the registration screening date, the parents (n=73) were mailed the 30-word Denver Articulation Screening Exam; steps for administering and scoring the exam were enclosed.

Comparison of parent and clinician-aide judgments were analyzed in two aspects: parent reporting no errors and parent reporting one or more errors. Forty-six (63%) of the 73 parents reported no errors, and of these 46 cases, 38 of them were also judged by the clinician-aides to be free of errors. Further analysis showed that in 82.63% of the parent "no error" responses, there was complete agreement with the clinician-aide assessment. In short, in all 46 of the cases, there was sufficient accuracy in parental assessments of no errors to have passed the children on the parents' administration of the exam. For the category, "parents report one or more errors," there appeared to be no relations between the number of errors reported by parents and clinician-aides. Of the 27 comparisons made in this category, 84 disagreements were found. About 60% (n=51) of the disagreements were due to the failure of parents to detect a misarticulation, and in the remaining 40% (n=33) the parent judged the articulation incorrect while the clinician-aide judged it correct. The authors concluded that parents can be used with some effectiveness in screening the speech development of their preschool children, especially in the area of no-error reporting. It was recommended that in early outreach efforts parental assistance should be explored and utilized.

The study by Frankenburg, van Doorninck, Liddell, and Dick (1976) is one of the most comprehensive investigations of parental-professional congruency in the assessment process. The purpose of the study was to develop a prescreening instrument (Prescreening Developmental Questionnaire, PDQ) to facilitate the identification of infants and young children who require a more thorough screening with the Denver Developmental Screening Test (DDST). Each of the 1,155 parents were administered ten age-appropriate questions on the PDQ. Subsequently, the children were tested on the DDST. The results showed that agreement between parental responses on individual items and the corresponding DDST item scores varied from 68% to 100% (mean, 93.3%). The predictive value of a referral was 23.3%; this referral percentage did not differ significantly whether the PDQ was answered by a day care center staff person or a parent. In conclusion, the authors argued that parents can accurately prescreen the development of their children. Despite the tendency for parents to overestimate their children's development, the PDQ screening decreased the need for DDST screening by nearly 69%.

An interesting variation of the parental estimations research was a study by Adelman and associates. The purpose of the study by Adelman, Taylor, Fuller, and Nelson (1979) was to compare the ratings among students, parents and teachers of the severity of a student's problems. The subjects were 180 students between 6 and 18 years of age and their parents and school teachers. All students were drawn from a pool of students who were in contact with the Fernald facility at UCLA; Fernald is a research, training and service center focusing on youth with learning or behavioral problems. The sample was divided into students with mild and severe problems. Three questionnaires, which covered the student's performance, attitudes, and behavior at and away from school, were given to each student, his/her parents, and his/her teacher. The seven items included such areas as general performance in doing school work, reading and mathematics performance, getting along with age peers, and so forth. Likert-type responses were made to the questionnaire items.

The results of the student-parent-teacher ratings were internally consistent. Students, compared to parents, consistently perceived their probelms as less severe. Teachers, on the other hand, rated the students considerably more severe than did the parents. For example, for the "mild group" 9% of the students rated themselves as "poor" or "very poor" in general performance in doing school work, 35% of the parents rated the students "poor" or "very poor," and 37% of the teachers rated the students as such. Another finding was that students perceived themselves more positive compared to standardized test scores. For the severe group, California Achievement Test scores showed that compared to age norms in reading, 81% and 69% scored 1 or more years and 2 or more years below, respectively. However, only 18% of the students rated themselves as poor and very poor readers. The authors discussed the findings in a heuristic sense. In general, they asked: how do such self-disclosure differences affect research, treatment, and understanding of this population of students?

Gradel, Thompson, and Sheehan (1980) investigated the agreement between mothers' estimations of their children's development and judgments made by teachers and diagnosticians. The subjects were 30 handicapped infants (ages 3 to 24 months) and 30 handicapped preschoolers (ages 38 to 73 months) and their mothers. On an item-by-item basis, the mothers were asked to estimate their children's development/performance. For the entire sample, the Alpern-Boll Developmental Profile was used; data from each child's teacher and mother were gathered. For the infant subgroup, the Bayley Scales of Infant Development were also used, and for the preschool group the McCarthy Scales of Children's Abilities were also used. In brief, the major findings were: (1) comparison of mothers' and diagnosticians' scores on the Bayley Scales showed that although mothers overestimated, significant rs in the .6 to .8 range between mothers and diagnosticians were found; (2) comparison of mothers' and diagnosticians' scores on the McCarthy Scales again revealed maternal overestimations, but rs in the .7 to .9 range were observed; (3) mother-teacher comparisons on the Developmental Profile test showed correlations in the .4 to .8 range, with mothers overestimating. In conclusion, the authors stated that because of the relatively high degree of maternal and professional agreement on scored items on the Developmental Profile (average agreement of 91%), on the Bayley Scales (76%), and the McCarthy Scales (78%), it could be interpreted that mothers were fairly accurate in the estimation of their children's current development. Other conclusions were that mothers of handicapped children made developmental assessments that highly correlated with traditional data sources (teachers and diagnosticians), mothers systematically overestimated their children's performance, and congruency of assessment was greater for older preschool children than for the infants.

Normal Populations

Seven studies are reviewed here. In yearly chronological order they are as follows: Stedman, Clifford, and Spitznagel (1969); Blair (1970); Lederman and Blair (1972); Colligan (1976); Kaplan and Alatishe (1976); Marcus and Corsini (1978); Hunt and Paraskevopoulos (1980). It is important to note that each of the seven studies utilized preschool children as subjects. Since the children in the present investigation are also preschoolers, the generalizability of the findings of the existing literature on normal populations to the present study is enhanced.

The study by Stedman, Clifford, and Spitznagel (1969) sought to compare mothers' and teachers' ratings of 17 5-year-olds from "disorganized" poverty-level families. The assessment tool used was the Preschool Attainment Record (PAR); it measures three major developmental areas (physical, social, and intellectual). The Attainment Quotient (AQ) is the sum of the three categories. The method involves the administration of standardized PAR interviews to the children's mothers and teachers. It was found that mothers rated their children significantly higher than did the teachers. Also, mothers tended to have higher ratings for boys.

Blair (1970), also using the PAR, administered this instrument to the mothers and teachers of 20 4-year old preschool children. The results showed that mothers rated boys significantly higher than teachers on the intellectual category; in addition, mothers overestimated the boys' performance and teachers underestimated. Finally, no significant differences were found between mothers and teachers in their estimations for the social and physical categories.

In a third preschool study in which the PAR was used, Lederman and Blair (1972) compared the ratings of teachers and mothers obtained from assessments of 28 kindergarten children. Results of the comparisons showed that the mean AQ rating of the mothers was significantly higher (mean 110.72) than the teachers (mean 107.50). To determine which type of informant was more accurate, the children were administered the Word Knowledge and Numbers subtests of the Metropolitan Readiness Test (MRT) one year after the PAR assessment data were collected. It was found that the predictive validity coefficients between AQ and MRT was higher (r=.62) for the teacher ratings compared to the mother ratings ($\underline{r}$=.24). The authors concluded that compared to the mothers, the teachers were more valid sources of developmental information of the children. This conclusion is somewhat questionable given the independence of the PAR categories. The authors noted that the teachers' ratings of the items in the intellectual behavior category did not predict MRT any better than the behaviors in the physical and social category. Given the high intercorrelation among the three different categories of the PAR and the high degree of overlap in the factors, it is likely that the differences in a child's ratings will lack reliability.

In a unique study, Colligan (1976) investigated how well parents' perceptions of their prekindergarten children's functioning would predict reading achievement a year later (at the end of kindergarten). During a May "kindergarten roundup" (information/registration day), parents of 59 children were asked to complete the Minnesota Child Development Inventory (MCDI). The MCDI is a standardized instrument using parental observations to assess young children; it consists of 320 items grouped into eight scales (e.g., General Development, Gross Motor, Expressive Language, Self-Help). Two other MCDI scales, Letters Scale (MCDI-L) and Numbers Scale (MCDI-N), that had been previously developed from item inspection of the MCDI, were also administered. The MCDI-L and MCDI-N, which have been found in previous research to be important as predictors of reading readiness, assess the parent's report of the child's knowledge of letters and numbers, respectively.

The results of the parents' reports were not made available to the children's kindergarten teachers. One year after the administration of the MCDI to the parents, each child was administered the Wide Range Achievement Test (WRAT), a prereading and number test. Also administered were two group tests: The Lippincott Reading Readiness Test (LRRT) and the Metropolitan Readiness Test (MRT). Correlations were computed between the three MCDI measures and the three criterion tests. The best single predictor was MCDI-L, which accounted for 56% of the variance in the WRAT reading score. Nearly equal predictive power was found when MCDI scores were correlated with the two group tests (LRRT and MRT). Another important finding was that correlations between MCDI and the achievement measures were consistently stronger for girls than for boys. To analyze this difference, the authors used regression techniques by studying the relative contributions of 18 variables (e.g., age of child, parent's educational level, classroom teacher). It was found that the inclusion of the 18 variables contributed very little to improved prediction.

Kaplan and Alatishe (1976) investigated the comparison of ratings by Canadian mothers of 20 preschool children (age range was 37-65 months) with the ratings of several daycare center teachers. The instrument used was the Vineland Social Maturity Scale (VSMS). Research by Fromme (1974, and Goulet & Barclay, 1963; cited in Kaplan & Alatishe, 1976) indicated that the VSMS correlates high with standard intelligence tests. The VSMS, which provides a social quotient, was administered to each mother individually, while the teachers pooled their estimates (this was done because no one teacher observed all the children's behavior). The results showed the consistent pattern of maternal overestimation. The mothers' social quotient mean was 137.8, and the teachers' mean was 114.9, a statistically significant difference of 22.9 points. The correlation between mothers' and teachers' social quotients was a nonsignificant .24. This lower than expected correlation might have been due to the different procedures used in collecting estimations from the informants. Teachers were pooled while mothers were individually assessed.

The study by Marcus and Corsini (1978), which they referred to as a"parental expectation" study, could easily be placed under the rubric of estimations research as defined in the present investigation. The purpose of Marcus and Corsini's study was to investigate the expectations of mothers and fathers for their 4-year-old preschoolers in an "achievement-type" setting. Specifically, the authors sought to examine differences in parental expectations as related to child gender and SES. The subjects were 40 preschoolers and their parents; 20 of the children (10 boys and 10 girls) were from intact middle-class families, and 20 (10 boys and 10 girls) were from intact lower-class families. The age range and mean of the children were 3 years 6 months to 5 years 1 month, and 51.5 months, respectively. For the criterion measures, four tasks (bead design, basket throw, picture memory, and drawing) were used. Each task, except one, had a series of seven levels designed and pretested so an average child could succeed until level 4 or 5; basket throw had ten levels. Each mother and father were instructed together on the scoring criterion for each task, but they were asked to make independent judgments. The parents were instructed that each task was further divided into three major "levels" (expected level for below average child, for average child, and above average child). Actual scores of the children were also obtained.

The results showed that there were no significant differences in performance between boys and girls or between lower- and middle-class families. In fact, mean scores were nearly identical. For the parental comparisons, the major findings were: (1) the SES main effect was significant ($p < .009$) with the mean expectation of middle-class parents being higher ($\bar{X}=8.0$) than lower-class parents ($\bar{X}=6.8$); on two tasks (bead design and drawing), an SES x task interaction was found with the mean expectations of middle-class parents on the bead design ($\bar{X}=8.95$) and basket throw ($\bar{X}=8.88$) being significantly different ($p < .01$) compared to the mean expectation of the lower-class parents ($\bar{X}=7.20$ for bead design, and $\bar{X}=7.03$ for drawing); (2) although the main effect for gender was not significant, one significant gender x task difference was found; on picture memory, parents of girls had higher expectations than parents of boys.

In part of their conclusion, the authors argued that given the lower performance expectations of lower-class parents, it is reasonable to implicate this type of parent behavior in the relatively poorer academic achievement of children from lower SES background. The logic of their argument is that lower parental expectations are associated with lower levels of encouragement of their children to attempt challenges and/or a lower confidence in their children to succeed. This "implication" discussed by Marcus and Corsini should be taken with extreme caution because of several reasons. First, the nearly identical performance scores of the middle- and lower-class children in the study do not support the contention that the lower expectations of the lower-class parents are associated with lower performance in their children. Second, the two significant differences between the middle- and lower-class parents were not analyzed using a statistical test of a measure of association (perhaps omega square could have been used). This means that the practical or phenomenological significance of the difference are only guesswork. Third, the authors ignore the wide body of literature that shows how "teacher expectancy effects" are related to the poorer performance of lower SES children.

One of the most important studies is a recent investigation by the reknowned developmentalist J. McVicker Hunt and a colleague. The investigation by Hunt and Paraskevopoulos (1980) was grounded theoretically in Hunt's modification of Piaget's theory of "equilibration" and "the problem of the match." It was theorized that mothers who hold relatively accurate perceptions of their children's interests and abilities are more capable of providing learning situations of interest ("matches") that are not boring undermatches or emotionally distressful overmatches. The subjects were 50 normal Greek preschool children who ranged in age from 45 to 64 months (mean age of 52 months). The mothers were heterogenous in educational attainment and employment status. The tests administered to the children and mothers (simultaneously but in separate rooms) were 96 items taken from the Stanford-Binet, the Peabody Picture Vocabulary Test, and the Valentine Test. The 96 items were administered on an item-by-item basis.

As found in previous research, the mothers, as a whole, overestimated the children's performance. The mean number of passed items predicted by the mothers was 68.70, and the mean number of items actually passed by the children was 52.20. The correlation between the number of items passed by the children and the number of items the mothers predicted their children would pass was .53. The major finding of the study provided some confirmation to the authors' hypothesis that there would be a negative relation between incorrect maternal estimates (increased inaccuracy) and the children's development (decreased passing of items). Incorrect or false predictions were defined as either underestimations or overestimations. The correlation was a highly significant -.80. More specifically, children who had mothers who made fewer than 20 false predictions performed correctly on nearly twice as many items (mean = 75.1) compared to children of mothers who made 40 or more false predictions (their children's mean passing score was 38.5). The authors hypothesized that if mere accuracy were the whole story, then the numbers of items passed by the children would show the same correlation with the underestimations as well as with the overestimations. This was not the case, as a zero correlation between the number of items passed by the children and underestimations was found, and an r of -.77 for overestimations was observed.

The authors two major conclusions were: (1) mothers who hold false information about their children's capabilities, compared to mothers who hold more accurate information, generally fail to provide development-fostering experiences for their children; (2) the damaging effects come from overestimations, not underestimations. Other important and statistically significant findings were: (1) mothers with more years of schooling made fewer false predictions and fewer errors of overestimation (r=-.28); (2) mothers who worked outside the home made fewer false predictions and fewer errors of overestimation (r=-.30); (3) the older the children, the fewer overestimations made by their mothers (r=.41); (4) finally, it was found that the correlation between the number of times mothers reported spending in the company of their children and the number of test items passed by the children was near zero. In conclusion, the parental estimations research by Hunt and Paraskevopoulos is a very important study because its findings and interpretations have suggestive pedagogic implications for the intellectual and affective development of young children. Notwithstanding Hunt and Paraskevopoulos' caveat that the measures of the mothers' accuracy and inaccuracy are only indirect indexes of the mothers' knowledge of their children's interest and abilities and the mothers' subsequent interactions with their children, the following quote captures the major implication of the study:

> ...Mothers who are highly ambitious for their children to excel should heed the evidence that their ambitions are likely to produce demands with which their infants cannot cope. It is honest, accurate observation of their children's abilities and interests rather than false hopes or defensive exaggerations of demands and expectations that permit mothers to behave with their infants and to arrange situations to foster their development, confidence, initiative, and trust. (Hunt and Paraskevopoulos, p. 295).

Conclusions

Based on the preceding literature review of parental estimations, several conclusions can be drawn. They are:

1. Compared to the children's actual performance, parents overestimate. This phenomenon of parental overestimation is a consistent finding and runs across age levels of children, gender of children, intellectual functioning levels (exceptional and normal populations), social class, educational attainment levels, and age of parents.
2. The findings of studies that have investigated parental estimations between developmental areas (e.g., motor vs. verbal) are inconclusive.
3. For exceptional populations, there is an inverse relation between the intellectual functioning level of children and the parents' overestimations. That is, as children's intelligence decreases, parents' overestimations increase.

4. For the few studies that have investigated family structural/demographic variables and accuracy, the trends appear to be that:[1]
   - younger parents are more accurate (compared to older parents)
   - parents with more years of schooling completed are more accurate
   - parents of higher social class are more accurate
   - parents of boys are more accurate
   - parents who work outside the home are more accurate
   - parents of older children are more accurate.
5. There is an inverse relation between incorrect parental estimates (increased inaccuracy) and children's development (decreased passing of test items).
6. For the commonly used accuracy index of "predictive ability accuracy," parents can be said to be fairly accurate. The observed correlation coefficients range from .2 to .9, and cluster between .5 and .6.

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[1] The comparisons imply differences in estimation levels. For example, if parents are more accurate of boys this means lower level of estimations of boys compared to girls. Hence, parents make higher estimations for girls compared to boys (e.g., Wolfensberger and Kurtz (1971)).

7. Compared to other sources (e.g., teachers, clinicians), parents generally make higher estimations. Also, parents estimations correlate fairly high with the evaluations of other sources.
8. There is evidence that parents can be used as credible and effective evaluators of their children in prescreening assessment procedures.
9. The study of parental estimations of families from culturally diverse groups is clearly absent in the existing literature.

METHOD

The following method section consists of a description of the subjects, instruments, procedure, and design.

Subjects. The sample consisted of 261 Mexican American preschool children and their mothers.[1] The children were enrolled in 20 preschools in eight towns/cities in Santa Barbara and Ventura Counties, California. The majority of the children were enrolled in public school district affiliated preschools (54.9%), and nearly one-third were enrolled in Headstart preschools (30.7%). The remaining children were enrolled in church related (3.9%), private nonprofit (5.1%), and public, not school affiliated, preschools (5.5%) (see Table 1, Appendix 1). Nearly all the participating preschools were oriented to serving children of low-income families.

Children

Of the 261 children, 41% (n = 107) were boys and 59% (n = 154) were girls (see Table 2, Appendix 1). The mean age was 55.02 months with a range of 32 to 75 months.

Regarding birthplace, 87% (n = 226) of the children were born in California, and 12% (n = 31) were born in Mexico. The remaining 1% (n = 4) were born in Arizona, Colorado, New Jersey, and Texas (see Table 3, Appendix 1).

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[1] Because 21 of the mothers had two children in the study, there were actually only 240 participating mothers, not 261. However, for the sake of simpler statistical analyses and easier reporting, the n for the mothers will be 261.

Mothers

The mean age of the mothers was 29 years with a range of 20 to 60 years (see Table 4, Appendix 1). For birthplace, 35% (n = 91) of the mothers were born in California and 59% (n = 155) in Mexico. The remaining 6% (n = 15) were born in the USA, other than California (see Table 5, Appendix 1). The mean length of residency in the USA for the Mexico-born mothers was 11 years; the range was from 2 to 23 years (see Table 6, Appendix 1).

Regarding marital status, 78% (n = 203) of the mothers were married, 9% (n = 23) were divorced, 6% (n = 15) were never married, 3% (n = 9) were separated, 3% (n = 9) reported "other" as marital status, .4% (n = 1) was widowed, and datum was missing on .4% (n = 1) of the cases (see Table 7, Appendix 1). Of the 261 mothers, 80% (n = 208) reported the father was present in the home, 18% (n = 46) reported the father was not present, and data were missing on 3% (n = 7) cases (see Table 8, Appendix 1).

With respect to home language spoken by the mothers, 66% (n = 172) spoke Spanish, 28% (n = 73) spoke English, 6% (n = 15) spoke Spanish and English, and datum was missing on one case (see Table 9, Appendix 1).

Socioeconomic status data were also collected. For educational attainment, the mean number of years of formal schooling completed by the mothers was 8.6 years with a range of zero years to college graduate. Nearly 37% (n = 96) had six years of schooling or less. Sixty-eight per cent (n = 178) did not graduate from high school, while 24% (n = 62) were high school graduates, minimally. Only 8% (n = 21) had one year of college or more, and 1% (n = 2) were college graduates (see Table 10, Appendix 1).

The majority of mothers (51%, n = 134) had their formal schooling in California, while 44% (n = 114) were schooled in Mexico. Of the remaining 13 mothers, 2% (n = 6) had their formal schooling in the USA (other than California), and data were missing on 3% (n = 7) of the cases (see Table 11, Appendix 1).

Regarding employment status, 47% (n = 123) of the mothers reported working outside the home, and 51% (n = 134) were not employed outside the home (these mothers reported homemaker as occupation). Data were missing on 2% (n = 4) of the cases (see Table 12, Appendix 1). Of the 123 mothers who reported being employed outside the home, 73% (n = 90) worked "full time," 16% (n = 20) worked "part time," and 11% (n = 13) worked "once in a while" (see Table 13, Appendix 1).

Based on the Hollingshead Two Factor Index of Social Position (Hollingshead & Redlich, 1958), the mean socioeconomic status of the mothers was extremely low. The Hollingshead Index yields a "class" level based on a weighted and summed score of occupation and years of schooling. The mean class level of the mothers was 4.5 (5 is the lowest on a scale of 1-5); the range was 2-5 (see Table 14, Appendix 1).

Fathers

The background data on the fathers were strikingly similar to the mothers. For birthplace, 19% (n = 44) were born in California, 69% (n = 159) were born in Mexico, 10% (n = 23) were born in the USA (other than California), 1% (n = 2) were born in Europe (see Table 15, Appendix 1). The mean length of residency in the USA for the Mexico-born fathers was 13 years; the range was from 2 to 40 years (see Table 16, Appendix 1).

Concerning home language spoken by father, 75% (n = 159) spoke Spanish, 21% (n = 44) spoke English, and 4% (n = 9) spoke both languages (see Table 17, Appendix 1).

For educational attainment, the mean number of years completed by the fathers was about a year lower (7.7 years) compared to the mothers (8.6 years). The range of educational attainment for fathers was zero years to post B.A. graduate. The majority of the fathers (53%, n = 111) had six years of schooling or less. Over three-fourths (76%, n = 161) did not graduate from high school, while 12% (n = 26) were high school graduates, minimally. Only 11% (n = 24) had one year of college or more, while 2% (n = 6) were college graduates (see Table 18, Appendix 1).

The majority of fathers (67%, n = 137) had their formal schooling in Mexico, while 31% (n = 64) were schooled in California. Three per cent (n = 5) had their formal schooling in the USA, other than California (see Table 19, Appendix 1).

The mean social class of the fathers, based on the Hollingshead Index, was 4.4. The range was 1-5 (see Table 20, Appendix 1). Therefore, given the mean social class index of 4.5 for the mothers and 4.4 for the fathers, the sample in the present study can be characterized as being from a very low socioeconomic background.

Other Family Background Information

Information was also obtained on the degree and nature of "others living in the home" (in addition to siblings and fathers). Of the 261 mothers, 22% (n = 57) responded "yes" to "others living in the home," and 77% (n = 200) responded "no." Data were missing on 2% (n = 4) of the cases (see Table 21, Appendix 1). The relationships of the "others" varied in the following descending order: other (32%), mother or father (24%), brother-in-law or sister-in-law (15%), mother-in-law or father-in-law (10%), distant relative (7%), nephew or niece (5%), aunt or uncle (3%), and son-in-law or daughter-in-law (3%) (see Table 22, Appendix 1).

Mothers were also asked to state the number of years living in the local area (community). The mean number of years was 14; the range was 1-49 years (see Table 23, Appendix 1). For the "number of years living in your present home," the mean and range were 4 years and 1-24 years, respectively (see Table 24, Appendix 1). Of the total respondents, 76% (n = 197) reported they were renting their home, 23% (n = 60) reported buying, 1% (n = 3) stated they were boarding with others, and datum was missing on one case (see Table 25, Appendix 1).

Instruments. Four major data gathering instruments were used in the study: (1) McCarthy Scales of Children's Abilities; (2) maternal version of the McCarthy Scales of Children's Abilities; (3) Family Data Questionnaire; (4) Henderson Environmental Learning Process Scale--Revised.

McCarthy Scales of Children's Abilities

The McCarthy Scales of Children's Abilities (McCarthy, 1972) was selected as the instrument to measure the children's cognitive abilities. The McCarthy Scales of Children's Abilities (MSCA) was chosen for several reasons:

1. The MSCA was developed by McCarthy with young children's interests and needs in mind. For example, it has attractive, attention-getting materials, it is sequenced to maintain rapport with the young child, and it takes a relatively short time to administer.

2. The MSCA yields a broad range of information. In addition to a global cognitive index, the following domains are also assessed: verbal, perceptual performance, quantitative, memory, and motor.

3. Ethnic minorities such as Native Americans, Asian Americans, Filipino Americans, Mexican Americans and Blacks were included in the standardization sample.

The MSCA was developed by Dorothea McCarthy; her goal was to develop a game-like, nonthreatening, comprehensive instrument to assess the intellectual development of young children. Based on her teaching, clinical experience, and training of school psychologists, McCarthy chose the content of her battery. Coupled with this intuition, she also used factor analysis on a portion of the standardization sample. What finally emerged were 18 separate tests which are grouped into six scales: Verbal (V), Perceptual-Performance (P), Quantitative (Q), General Cognitive (GC), Memory (MEM), and

Motor (MOT). The 18 subtests with their corresponding scale loadings are as follows:

1. Block Building--P, GC
2. Puzzle Solving--P, GC
3. Pictorial Memory--V, GC, MEM
4. Word Knowledge--V, GC
5. Number Questions--Q, GC
6. Tapping Sequence--P, GC, MEM
7. Verbal Memory--V, GC, MEM
8. Right-Left Orientation--P, GC
9. Leg Coordination--MOT
10. Arm Coordination--MOT
11. Imitative Action--MOT
12. Draw-A-Design--P, GC, MOT
13. Draw-A-Child--P, GC
14. Numerical Memory--Q, GC, MEM
15. Verbal Fluency--V, GC
16. Counting and Sorting--Q, GC
17. Opposite Analogies--V, GC
18. Conceptual Grouping--P, GC

Of the 18 subtests, three subtests (Leg Coordination, Arm Coordination, and Imitative Action) are exclusively Motor. Thus, they do not load into the General Cognitive Index (GCI). When the remaining 15 subtests are considered altogether, they form the GCI, a global index of overall intellectual functioning. The relation between V, P, and Q and the GCI is as follows:

$$V + P + Q = GCI$$

In summary, the six scales and their respective subtests (by test number) are:

Verbal Scale--subtests 3, 4, 7, 15, and 17.

Perceptual-Performance Scale--substests 1, 2, 6, 8, 12, 13, and 18.

Quantitative Scale--subtests 5, 14, and 16.

General Cognitive Scale--subtests 1-8 and 12-18.

Memory Scale--subtests 3, 6, 7, and 14.

Motor Scale--subtests 9-13.

The scoring of the six scales of the MSCA involves the conversion of the child's raw score to an age-scaled score, called an Index. For the V, P, Q, MEM, and MOT Indexes, the mean and standard deviation were arbitrarily set at 50 and 10, respectively. The mean and standard deviation for the GCI are 100 and 16, respectively.[3]

The standardization of the MSCA was based on a nationwide sample that was stratified on six variables (age, sex, ethnicity, geographic region, father's occupation, and urban versus rural residence). The standardization sample included 1,032 boys and girls equally divided among ten age intervals between 2-1/2 to 8-1/2 years. Of the total sample, 83.5% of the children were white and 16.4% were ethnic minority. The children, from five different socioeconomic levels, were selected from four regions of the USA: Northeast, North Central, South and West.[4]

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[3] For more information on how McCarthy determined the weighting system and how the normative table was constructed, the reader is referred to pages 17-23 in the MSCA manual (McCarthy, 1972).

[4] See Chapter 2 of the MSCA manual for more information on the standardization of the MSCA.

The MSCA is designed to assess the intellectual abilities of English-speaking children. Because there were a large number of limited and non-English-speaking children as subjects in the present study, the MSCA was translated to Spanish. For each test, all directions and test statements/questions (red print in the MSCA manual) were translated. Under the supervision of the principal investigator and co-principal investigator, the four research assistants (all Spanish-English bilinguals) and the project secretary (a graduate student in Spanish and Literature) translated the MSCA.[5]

In addition to the three reasons cited previously for the selection of the MSCA for use in this study (geared for young children, comprehensive assessment, inclusion of ethnic minorities in the standardization sample), there were also psychometric considerations. In 1978 when the present investigation got underway, a comprehensive review article on the MSCA was not yet published. However, Alan S. Kaufman, and Nadine L. Kaufman, leading experts on the MSCA, in a book entitled Clinical Evaluation of Young Children with the McCarthy Scales (Kaufman & Kaufman, 1977), concluded that the MSCA was a relatively sound instrument for young children. This conclusion has recently been given further support by an extensive (nearly a decade of research) and comprehensive literature review of the MSCA (Kaufman, in press). Notwithstanding some criticisms (e.g., lack of social comprehension and judgment tasks for school age children), Kaufman (in press) provided these encouraging conclusions:

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[5] See Appendix 2 for the translated Spanish version of the MSCA.

1. Generally, the GCI is reliable and valid. The correlations between the GCI and the Wechsler and Binet scales are in the .70's-.80's range.

2. Factor analytic studies show the profiling nature of the MSCA to be meaningful, particularly for the GCI, V, Mot, and P Scales.

3. Although there is little empirical support to show that the MSCA has predictive validity in screening children with learning problems, the MSCA has very good validity for normal children.

4. Based on several studies with Black children, the MSCA appears to be relatively nondiscriminatory. The meager evidence on Mexican American and Puerto Rican children appears promising.

In conclusion, based on the available empirical evidence, the MSCA appeared to be--in hindsight--a very good choice to measure the cognitive performance of the children in the present investigation.

Maternal Version of the McCarthy Scales of Children's Abilities

The design of the study called for the mothers to estimate the cognitive abilities of their children. Therefore, it was necessary to develop a version of the MSCA so that maternal estimations could be measured. The criteria for developing the maternal version are described below:

1. The maternal version of the MSCA should be constructed so that the mothers could respond (estimate) item-by-item to the child's performance.

2. The mothers' responses (perceptions) should be structured so that comparative analyses with the child's responses (realities) could be computed.

3. The "administration" of the MSCA to the mothers should be done so that the mothers are not required to give the correct answer (right versus wrong), but rather the mother would state whether she believed her child gave the correct answer during the child's testing. In other words, the mother should not be tested.

4. The "administration" of the maternal MSCA should be done in such a manner that the mother would have a good sense of what transpired when the child was tested. Thus, the administration of the MSCA to the mother was done in simulated

fashion, as much as possible. For example, the mother was placed in the same position as the child in relationship to the examiner, materials were laid out in front of the mother in the same way they were for the child, etc.

5. The maternal version should be so constructed that the responses of the mothers could be made and scored within the full range of possible responses the child could have made. In other words, the mothers' responses could be scored within the same parameters of the actual scoring protocol of the MSCA.

Using the above criteria, a maternal version of the MSCA was developed. For the limited and non-English-speaking mothers, a Spanish translation was made.[6]

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[6] See Appendix 3a for the English version and Appendix 3b for the Spanish version.

Family Data Questionnaire

A Family Data Questionnaire was developed for use in the gathering of family background information.[7] The mothers of the children provided the information by serving as respondents in a home interview. The data obtained through this instrument was used to study the relation between family structural variables and mothers' estimations. The following data were gathered through the Family Data Questionnaire: (1) birthdate, sex, place of birth, and preferred language of child and his/her siblings; (2) marital status of mother; (3) birthplace of mother and father; (4) length of residency in USA of mother and/or father who were born in Mexico; (5) number, relationship, age, and sex of person(s), besides parents, who live in the home; (6) length of residency in the local town/city and in the present home; (7) renting or buying of home; (8) occupation of mother and father (type, frequency); (9) schooling attainment of mother and father; (10) location of parents' schooling (Mexico and/or USA); (11) number of children who have graduated from high school and college; (12) language most often spoken by parents (English or Spanish) in the home, outside the home, and to the child (the preschool child who is the subject of the study).

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[7] See Appendix 4a and 4b for the English version and Spanish version, respectively.

Henderson Environmental Learning Process Scale

To measure the "family social-psychological variable" of the home environment, a modified version of the Henderson Environmental Learning Process Scale was used (HELPS; Henderson, Bergan, & Hurt, 1972).[8] The HELPS is a structured interview using a Likert-type scale. The instrument...

> ...is designed to measure characteristics of the home environment that have been found to be related to the intellectual and scholastic performance of young children. It contains items designed to elicit (1) quantifiable information on the aspiration level of the home, (2) range of environmental stimulation available to the child, (3) parental guidance or direct teaching provided in the family, (4) range (variability in occupational and educational status) of adult models available for emulation by the child, and (5) the nature of reinforcement practices used in the home to influence the child's behavior. The instrument yields a subscore for each of these five variables, and a total score. Administration of the scale requires approximately 20 minutes. It can be used successfully by interviewers with limited formal education, but some special training in the use of the scale is required. The administration procedure is designed to make it possible to administer the scale to parents who may have difficulty reading the items. The interviewer and respondent sit side by side at a table. Responses are arranged like a balance scale, with polar descriptions of behavior or circumstances at each end of the scale. The item is read aloud by the interviewer, who points to the reference terms as he or she reads, and the respondent marks 1 of 5 points along the continuum. Local adaptations of some items are advised...(Johnson, 1976, p. 783).

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[8] Dr. Ronald W. Henderson, developer of the HELPS, served as a consultant to the present investigation and worked closely with the principal investigator in the revision of the HELPS for use in this study.

> Regarding reliability and validity of the HELPS:
>
> The scale was originally administered to mothers of 126 first-grade children. The sixty-six Mexican-American children in this sample were predominantly from low-income families, while the sixty Anglo-American children were predominantly middle-class. Reliability, computed by the Cronbach *alpha* method, was .71 for the Anglo sample and .74 for the Mexican-American sample. In subsequent administrations of the scale Cronbach *alpha* coefficients of .85 for fifty middle-class Mexican-American, .74 for fifty lower-class Anglo families, .79 for twenty-seven Papago native American families have been obtained. Predictive validity was determined in one investigation in which the scale provided highly significant predictions of performances of Mexican-American and Anglo first graders in the Stanford Early Achievement Test and the Boehm Test of Basic Concepts.
>
> Further evidence of predictive validity was indicated in a study in which the scale predicted achievement of migrant and nonmigrant black and Puerto Rican urban sixth graders (Johnson, 1976, p. 784).

The development of the HELPS and other instruments of its type which are designed to measure the home learning environment, are important steps foward in studying the home environmental influences on criterion measures such as intellectual performance and school achievement. The HELPS and other similar measures are significant advances in that they go beyond previous research attempts which have attempted to study home influences on intelligence and achievement. The predominant design in previous research has been to use socioeconomic status, a summarizing and gross variable, as the independent variable. This shortcoming is discussed by Henderson, et al. (1972).

The theoretical grounding of HELPS is largely derived from the work of researchers in the early 1960's (Davé, 1963; Wolf, 1964; cited in Henderson, et al., 1972). Beginning with the earlier work to the present time, these "environmental process variables" (e.g., academic guidance, intellectuality in the home), have consistently accounted for a substantial proportion of the variance in criterion measures such as achievement and intelligence tests (Henderson, 1981).[9]

One of the advantages of the HELPS is that it can be adapted for local use. Based on a pilot study of the HELPS by the principal investigator, it was decided to make some revisions. The reasons for the revisions were as follows: (1) there were some items that were deleted because they were somewhat sensitive in terms of cultural and socioeconomic differences (e.g., item no. 28, "How much do you (or some other adult) talk with (CHILD) at mealtime?"; item no. 39, "How often do you have guests in your home, or visit in the homes of friends who have more education or better jobs than yourself (your husband)?"); (2) there were some items that were unnecessary because the information was obtained from the Family Data Questionnaire (e.g., item no. 42, "How much schooling have you had?"); (3) there were some items that were age inappropriate

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[9] For a detailed discussion of environmental process variables and subsequent research, see the following: Henderson (1966); Henderson (1981); Henderson and Merritt (1968); Henderson, Bergan, and Hurt (1972).

(e.g., item no. 47, "How often do your children (your child) come to you with homework problems?"). In addition to the preceding reasons for content revisions and adaptations, two procedural changes were made. First, items were clustered around a common topic (e.g., "family's free time activities"); this appeared to improve the continuity of the interview. Secondly, based on the pilot study, acquiescence resulted from the HELPS questions that dealt with quantitative answers (e.g., questions that asked "how often..."). In order to prevent acquiescence and to allow for more discrimination, hence variability, in answers, the quantitative type questions were asked in one complete strand (items 1-25 in revised HELPS). Furthermore, the questions were read by the examiner, and the mother did not see the scale or did she see the examiner mark the appropriate blank on the scale. This procedure improved discrimination. The HELPS questions that dealt with qualitative responses (e.g., "how important...") were administered as in the HELPS protocol--respondents were trained how to respond to the scale, and after the examiner read the question to the mother, she marked an "X" on the blank along the scale, indicating her response (items 26-35 on the revised HELPS were of this type). In addition, the blanks in the qualitative questions that were directly next to the polar extremes had qualitative values inserted; the middle or halfway point on the scale was left blank.

Finally, to gather additional data pertinent to the goals of the present investigation, the following four questions were developed for inclusion in the revised HELPS:

36. Do you see any particular differences in the educational needs of boys and girls? (Elaborate)
37. How much education do you wish (CHILD) to receive?
38. The question I just asked you had to do with your wishes. We all know that in the real world we may or may not get what we wish for. Sometimes there are things that might help us or prevent us from getting our wishes. Keeping this in mind how much education do you think (CHILD) will complete?
    (If parent's response to question 38 was lower than the response to question 37, ask:)
    Why do you think that (CHILD) will actually complete less education than you would like for him/her to complete?
39. There are many Mexican American parents, teachers, and politicians who believe that the present school system is not meeting the educational needs of Mexican American children. In your opinion, does the present school system satisfy the needs of Mexican American children?
    yes ___ no ___ don't know ___
    (If no) In your opinion, how could the present educational system be improved?
    (If yes) In which ways is the school system satisfying the needs of Mexican American children?
    (If don't know, try probing) Can you think of one or two ways in which you are satisfied with the schools in how they teach Mexican American children?

The final revised HELPS (hereafter referred to as HELPS-R; see Appendix 5a) contains 39 questions.[10] The original HELPS contains 55 items. As in the HELPS, the HELPS-R scales contain intermediate points in between polar extremes. Values are from 5 (highest) to 1 (lowest); 3 is the half-way value.

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[10] See Appendix 5b for the Spanish translated version of HELPS-R.

Procedure[11]

Beginning October 1, 1978, the first phase in the present study was to identify the population of preschools in Santa Barbara and Ventura counties (California) primarily serving low-income Mexican-American children.

After site identification, research assistants visited each preschool to explain the project to the director and to obtain permission for the preschool to participate in the study. Parental permission was also sought. From the 20 preschools, 353 parents gave their permission for their children to be participants.

The MSCA testing of the children began on February 13, 1979 and terminated in early June, 1979. The testing of the children was done at their preschools in quiet areas. Because of the time limitations, the three subtests that were loaded exclusively with motor items were not administered. Four, trained, female, bilingual Mexican American research assistants served as examiners. The examiners arrived at the preschool one day prior to testing for a "rapport establishing time." At that time, each examiner made herself conspicuous to the children who were to be tested, by assisting the preschool teacher in instruction (e.g., reading to a small group) and by speaking individually to each designated subject and establishing rapport (e.g., "If you like, I will be back tomorrow to play some more games with you"). Another important aspect of the rapport establishing time was for the examiner to speak to the child in his/her preferred and most competent language. Based on examiner judgment as determined by the rapport time, teacher judgment, and the child's preferred language, each subject was administered the standard MSCA in English or the translated Spanish version.

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[11] Detailed progress reports which cover the duration of the project are filed with Project Officer, Dr. Maiso Bryant, ACYF.

In order to ensure that non Mexican American children (whose parents gave permission or requested the testing) would not feel left out, all children who submitted parental permission slips (n=353) were tested. Of the 353, 33 children were Black or white, and the remaining 320 were Mexican American children. Only the Mexican American data were subsequently analyzed.

The children were tested at one setting; testing time averaged 40 minutes. For the limited-English-speaking children, a child was considered a Spanish-tested subject if his/her responses were in Spanish 75% or more of the time. A limited-Spanish-speaking child was considered an English-tested subject if the responses were in English 75% or more of the time. A bilingual-tested child was defined as a child who responded in English about 50% of the time and in Spanish about 50% of the time. Finally, the monolingual children

(English or Spanish) were classified as either English or Spanish-tested. The monolingual groups were the predominant groups. Examiners' notes during tests in combination with a post testing analysis of the protocols (e.g., children's verbal responses) were used to decide the children's test language classification. Of the 320 children tested, 54% (n=173) were tested in Spanish; 41% (n=130) in English, and 5% (n=17) were tested bilingually.

After testing each child, the examiner computed the MSCA scores using standard scoring procedures as outlined in the manual. Another examiner verified the computations for accuracy. The second examiner also did an independent verification of the scores of the Draw-A-Design and Draw-A-Child subtests (inter-rater reliability). If discrepancies were found (which was rare) the two examiners met and corrected the discrepancy using a decision rule developed by the principal investigator.

The home interviews of the mothers began on July 1, 1979 and were completed on October 31, 1979.[12] The average length of time that lapsed between the MSCA testing and the home interviews was approximately three months. The home interview lasted about two hours. Each home visit involved the administration of three instruments: (1) Family Data Questionnaire; (2) maternal version of the MSCA; and (3) the HELPS-R. At the end of the HELPS-R administration, the research assistant shared the results of the child's MSCA performance. In a simple, straightforward way, the child's percentile score was explained; no MSCA scaled scores were mentioned. In addition, the child's highest percentile score of the three major scales (Verbal, Quantitative, and Perceptual-Performance) was mentioned to the mother. This was an attempt to emphasize the strengths of the child. Finally, if the mother requested any information on home instructional strategies to use with the child, the research assistants were prepared to offer suggestions developed by the principal and co-investigator (e.g., reading readiness activities that the mother could easily use in the home with the child).

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[12] Of the 320 children tested, 261 mothers participated in the home interviews because 59 were lost through attrition (moved, no phone numbers, requested not to participate, cancelled interview).

Following the administration of the Family Data Questionnaire, the mother was administered the maternal version of the MSCA (see Appendix 3a and 3b). The English or Spanish version was given, depending on the mother's language preference. The following opening instructions were given to the mother:

> Mrs. ____________________, on ______________ 1978, about _____ months ago (GIVE PARENT EXACT DATE OF TESTING), I visited (CHILD'S) preschool and gave him a test to see how well he was doing in some basic kinds of skills, such as recognizing colors, counting, and so forth.
>
> Including myself, there were three other women who tested children. All together we tested over 300 Mexican American preschool boys and girls.
>
> At the end of our visit today, I will go over the results of how (CHILD) did compared to other children of his same age. But before we do that, I would like to go through each item of the test to show you how (CHILD) was tested. As we go

> through the test--which takes about an hour--I would like to ask you your thoughts about how well you think (CHILD) did on each activity. If you are not sure how well you think (CHILD) did, please give answers that you think are the closest. Do you have any questions? O.K., let's begin.

After the preceding instructions, the maternal version of the MSCA was administered according to the directions in the maternal manual (see Appendix 3a and 3b). The "administration" of the MSCA to the mother was done in such a fashion that the actual testing situation of the child was simulated as much as possible (e.g., seating location of examiner and mother, positioning of test materials, item order, directions). Following the administration of the maternal version of the MSCA, the examiner computed the maternal estimations of her child's MSCA performance. The identical scoring protocol used for the children were used in the maternal version (see Appendix 3a and 3b). A second examiner verified the computations for accuracy.

Preceding the administration of the maternal version of the MSCA, the HELPS-R was administered to the mother. Depending on language preference of the mother, either the English or Spanish HELPS-R was administered. The examiner introduced the HEIPS-R by saying:

> I am assisting researchers in the Center for Chicano Studies at the University of California by gathering some information which may help to develop better educational programs for parents

> and their young children. We are especially interested in knowing more about the experiences which preschool children and their families have in different kinds of communities. The people involved in this project hope that such information will make it possible for them to help schools improve their programs for preschool children and their parents.
>
> I'd like to begin by asking you some questions about (CHILD), and things you do together. There are no "right" or "wrong" answers to these questions. We know that all children and their families do things differently, and we're interested in knowing your answers. Please answer in the best way or the closest way you can. If you don't understand a question, just ask me and I'll try to explain it to you. Okay? Let's begin.

Subsequent to the above introduction and instructions, the HELPS-R was administered to the mother. As previously described and discussed (see page 64), the mother was read the first 25 questions of the HELPS-R by the examiner. Neither did the mother see the scoring scale or the examiner mark the appropriate location on the scale. Mothers who were not married were not asked the husband applicable questions (nos. 18, 21, and 24).

After the administration of question no. 25, the examiner paused and said:

> Now I would like to ask you some questions that are a little bit different. Remember, there are no right or wrong answers. We know that all children and their families do some things the same and other things differently, and we are interested in your particular attitudes and opinions.
>
> I am going to read each of the following questions with you and then I would like you to choose the answer that best describes your opinion. If you

> don't understand the question ask me and I'll try to explain it.
>
> Each question is set up like a scale. I'm going to read through the question with you, and then I want you to mark the answer which best indicates how you would answer this question. Let's start by going through an example.

Following the above instructions, the example and procedure used were identical to those used in the original HELPS. The example was shown and read to the mother. The examiner then proceeded to go through each of the possible answers making sure the respondent understood each category of the scale (see Appendix 5a, pages 6-7). After the example question and scoring procedure were explained, the mother was instructed:

> The words on the scales for each of the following questions are different, but the idea is the same. You place your "X" in one of the blanks along the scale to show how you would answer the question. Please answer every question.

The examiner then read, one by one, questions 26-35, and the mother placed her "X" in the blank along the scale she felt was most appropriate. The final questions of the HELPS-R (nos. 36-39) were a combination of open and closed-ended questions (see pages 65 for description and discussion of these questions). This completed the adminstration of the HELPS-R interview.

The home interview was completed by a report of the child's MSCA performance and a discussion of helpful suggestions for mothers to consider when interacting with their children.

RESULTS

This section presents the results of the data analyses. As described in the introductory section, four major research questions are addressed in the present investigation. In iteration, they are as follows:

1. How do the perceived general cognitive estimations given by the mothers compare with the actual general cognitive performances of their children?
2. How do the estimations given by the mothers vary between and within the cognitive areas of the MSCA?
3. How are the family structural variables under study related to mothers' estimations?
4. How is the social psychological variable of the home environment related to mothers' estimations?

In addition to the four above questions that deal with estimation "levels," the question of "accuracy" is also addressed. Finally, subsidiary findings concerned with the mothers' accuracy of estimations for the children's MSCA performance are reported.

Two major types of statistical methods were used to analyze the data. To test the differences of mean scores, two group independent sample t tests with equal and unequal ns were calculated. The criterion for rejection of the null hypotheses ("no differences") was the .05 level of statistical significance. To analyze relations, Pearson product-moment correlation coefficients were calculated; the .05 level of confidence was also the criterion for rejection of the null hypotheses.

The following analyses of the four major research questions are first presented for the level of estimation and then for the accuracy results.

Question Number 1: General MSCA Comparison

Table 26 presents the statistical results of the global question which asked how mothers' estimations of their childrens general intellectual functioning--as measured by the GCI of the MSCA--compared with their children's actual performance.

Table 26

Comparison of Mean GCI Scale Scores of Mothers' Estimations and Children's Performance

Group	*n*[a]	$\bar{x}$	$\bar{x}$ diff.	sd	*df*	*r*	*t*
Mothers	259	112.38	16.94	20.25	258	.55*	15.95*
Children	259	95.44		13.72			

[a] Several mothers were unable to make judgments on all subtests of the MSCA and/or several children were unable to complete the MSCA protocol. Therefore, the *ns* in the tables in the results section will vary slightly from 261.

*$p < .001$.

The mothers' mean GCI scale score estimation was 112.38, and the mean GCI scale score of the children was 95.44. The large difference of 16.94 GCI points was highly significant ($p < .001$). This means that the mothers can be characterized as "overestimators," and that the finding conformed to the consistent phenomenon of maternal overstimation as reported in the existing literature.

Concerning accuracy, one index that can be used (as discussed in the introductory section) is "predictive ability accuracy." This form of accuracy asks how well do mothers' estimations correlate with children's scores, or more specifically, how well do mothers predict regarding the direction and magnitude of the relation. Table 26 shows that the r between mothers' GCI estimations and children's GCI performance was .55, a significant, positive, and moderately high relation. This shows that as children's GCIs increased, the mothers' estimations also increased and at a moderately high magnitude. The observed correlation of .55 indicates fair accuracy as defined in the context of the predictive ability accuracy index. Using the other two indexes of accuracy ("absolute accuracy" and "statistical chance accuracy") the mothers were very inaccurate. Since maternal overestimation was consistent throughout the analyses, the predictive ability accuracy index will be presented in Tables 26-47 (global, between, and within cognitive areas) because it is more meaningful.

Question Number 2: Between MSCA Comparisons

Tables 27, 28, 29, and 30 show the t-test and r comparisons for the Verbal, Perceptual-Performance, Quantitative, and Memory Scale Indexes of the MSCA.

Table 27 shows the results of the Verbal Scale.

Table 27

Comparison of Mean Verbal Scale Scores of Mothers' Estimations and Children's Performance

Group	n	$\bar{x}$	$\bar{x}$ diff.	sd	df	r	t
Mothers	259	53.28	7.24	12.78	258	.46*	9.85*
Children	259	46.04		9.21			

*$p < .001$.

For the Verbal area, the mean estimation given by the mothers was 53.28, and the mean score of the children was 46.04. The difference of 7.24 points was significant ($p < .001$). The observed r was .46, significantly different from zero ($p < .001$).

The results for the Perceptual-Performance Scale are shown in Table 28.

Table 28

Comparison of Mean Perceptual-Performance Scale Scores of Mothers' Estimations and Children's Performance

Group	n	$\bar{x}$	$\bar{x}$ diff.	sd	df	r	t
Mothers	259	62.45	12.24	11.25	258	.48*	18.69*
Children	259	50.21		9.01			

*$p < .001$.

The mean scores for the mothers and children were 62.45 and 50.21, respectively. The mean difference of 12.24 points is significant at the .001 level. The r of .48 is also significant ($p < .001$).

Table 29 contains the results for the Quantitative Scale comparison.

Table 29

Comparison of Mean Quantitative Scale Scores of Mothers' Estimations and Children's Performance

Group	n	$\bar{x}$	$\bar{x}$ diff.	sd	df	r	t
Mothers	259	54.19	7.59	11.76	258	.41*	10.75*
Children	259	46.60		8.70			

*$p < .001$.

The maternal estimations mean was 54.19, which was 7.59 points higher than the children's mean score of 46.60. This difference was significant ($p < .001$). The r was .41, significantly different from zero ($p < .001$).

The statistical results for the Memory Scale comparison are shown in Table 30.

Table 30

Comparison of Mean Memory Scale Scores of Mothers' Estimations and Children's Performance

Group	n	$\bar{x}$	$\bar{x}$ diff.	sd	df	r	t
Mothers	258	52.46	7.40	12.52	257	.44*	10.13*
Children	258	45.06		8.96			

$^{*}p < .001$.

As in all previous comparisons, the mothers overstimated their children's performance. The mean estimation was 52.46 and the mean actual score was 45.06. The difference of 7.40 points was significant at the .001 level of confidence. A significant r of .44 was found ($p < .001$).

Question Number 2: Within MSCA Comparisons

This research question is concerned with how the mothers' estimations might vary within the three test scales of the MSCA.[1] Tables 31-36 contain the results of the Verbal Scale subtest comparisons (Pictorial Memory, Word Knowledge I & II, Verbal Memory I, Verbal Memory II, Verbal Fluency, and Opposite Analogies). Tables 37-43 present the results of the Perceptual-Performance Scale subtest comparisons (Block Building, Puzzle Solving, Tapping Sequence, Right-Left Orientation, Draw-A-Design, Draw-A-Child, and Conceptual Grouping), and Tables 44-47 have the Quantitative results (Number Questions, Numerical Memory I, Numerical Memory II, and Counting and Sorting).

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[1] Memory is not considered a "separate" area because the Memory subtests load into each of the three scales (Verbal, Perceptual-Performance, and Quantitative) which in turn combine to make the GCI.

Verbal Scale Subtests Comparisons

Table 31 contains the results of the Pictorial Memory subtest.

Table 31

Comparison of Mean Pictorial Memory Scores of Mothers' Estimations and Children's Performance

Group	n	$\bar{x}$	$\bar{x}$ diff.	sd	df	r	t
Mothers	258	3.92	.63	5.06	257	.12*	1.97*
Children	258	3.29		1.54			

$^*p < .05$.

The mean estimation by the mothers was 3.92, and the children's mean score was 3.29. The difference of .63 points was significant at the .05 level, and the observed r was a very low, positive, yet significant .12 ($p < .05$).

Comparison of the mothers' estimations and the children's performance on Word Knowledge I & II are shown in Table 32.

Table 32

Comparison of Mean Word Knowledge I & II Scores of Mothers' Estimations and Children's Performance

Group	$\underline{n}$	$\bar{x}$	$\bar{x}$ diff.	sd	$\underline{df}$	$\underline{r}$	$\underline{t}$
Mothers	257	15.14	1.39	3.43	256	.26*	5.47*
Children	257	13.75		3.25			

*$\underline{p} < .001$.

The mean maternal estimation of 15.14 was 1.39 points greater than the mean score of the children (13.75); the difference is significant ($\underline{p} < .001$). The observed $\underline{r}$ of .26 is also significant beyond the .001 level of confidence.

Table 33 presents the results of the Verbal Memory I subtest comparison.

Table 33

Comparison of Mean Verbal Memory I Scores of Mothers' Estimations and Children's Performance

Group	*n*	$\bar{x}$	$\bar{x}$ diff.	sd	*df*	*r*	*t*
Mothers	257	8.63	-.07	3.08	256	.35*	-.34(NS)
Children	257	8.70		3.42			

$^{*}p < .001$.

The results of the Verbal Memory I subtest comparison is one of two subtests that showed an underestimation on the part of the mothers. The maternal estimation mean was 8.63, and the mean of the children's performance was 8.70. The difference of .07 points was nonsignificant. The *r* of .35 was significant at the .001 level.

The results of the Verbal Memory II subtest comparison is shown in Table 34.

Table 34

Comparison of Mean Verbal Memory II Scores of Mothers' Estimations and Children's Performance

Group	*n*	$\bar{x}$	$\bar{x}$ diff.	sd	*df*	*r*	*t*
Mothers	253	5.81	2.19	3.37	252	.25*	9.22*
Children	253	3.62		2.74			

$^{*}p < .001$.

The mean difference of 2.19 points between maternal estimations ($\bar{x}$ = 5.81) and children's performance ($\bar{x}$ = 3.62) was significant ($p < .001$). The r of .25 was also significant ($p < .001$).

Table 35 contains the results of the comparison for the Verbal Fluency subtest.

Table 35

Comparison of Mean Verbal Fluency Scores of Mothers' Estimations and Children's Performance

Group	n	$\bar{x}$	$\bar{x}$ diff.	sd	df	r	t
Mothers	257	14.30	3.34	6.45	256	.28*	7.73*
Children	257	10.96		4.88			

*$p < .001$.

The mean estimation of the mothers was 14.30, which was 3.34 points higher than the mean score of the children ($\bar{x}$ = 10.96); the difference was significant at the .001 level. The observed r of .28 was also significant ($p < .001$).

The results of the Opposite Analogies subtest are shown in Table 36.

Table 36

Comparison of Mean Opposite Analogies Scores of Mothers' Estimations and Children's Performance

Group	n	$\bar{x}$	$\bar{x}$ diff.	sd	df	r	t
Mothers	257	8.66	2.50	4.60	256	.33*	8.33*
Children	257	6.16		3.59			

*$p < .001$.

The mean estimation by the mothers was 8.66, and the children's mean score was 6.16. The difference of 2.50 points was significant ($p < .001$), and the r of .33 was also significant beyond the .001 level.

Perceptual-Performance Scale Subtests Comparisons

Table 37 contains the results of the Block Building subtest.

Table 37

Comparison of Mean Block Building Scores of Mothers' Estimations and Children's Performance

Group	n	$\bar{x}$	$\bar{x}$ diff.	sd	df	r	t
Mothers	258	9.11	.22	1.66	257	.26*	1.91(NS)
Children	258	8.89		1.44			

*$p < .001$.

The mean difference of .22 points between maternal estimations ($\bar{x}$ = 9.11) and children's performance ($\bar{x}$ = 8.89) was found to be nonsignificant. The correlation of .26 was significant ($p < .001$).

Table 38 contains the results of the Puzzle Solving subtest.

Table 38

Comparison of Mean Puzzle Solving Scores of
Mothers' Estimations and Children's Performance

Group	n	$\bar{x}$	$\bar{x}$ diff.	sd	df	r	t
Mothers	258	6.34	2.11	3.97	257	.33*	8.23*
Children	258	4.23		3.03			

*$p < .001$.

The mean estimation by the mothers was 6.34, which was 2.11 points higher than the mean score of 4.23 performed by the children; this difference was significant beyond the .001 level. The r of .33 was also significant ($p < .001$).

The results of the Tapping Sequence subtest are presented in Table 39.

Table 39

Comparison of Mean Tapping Sequence Scores of Mothers' Estimations and Children's Performance

Group	n	$\bar{x}$	$\bar{x}$ diff.	sd	df	r	t
Mothers	258	3.57	1.34	2.00	257	.22*	9.65*
Children	258	2.23		1.51			

*$p < .001$.

The mean difference of 1.34 points between maternal estimations ($\bar{x}$ = 3.57) and children's performance ($\bar{x}$ = 2.23) was significant ($p < .001$); the observed r of .22 was significant ($p < .001$).

Table 40 contains the results of the Right-Left Orientation subtest.

Table 40

Comparison of Mean Right-Left Orientation Scores of Mothers' Estimations and Children's Performance

Group	n[a]	$\bar{x}$	$\bar{x}$ diff.	sd	df	r	t
Mothers	80	4.65	-1.59	3.97	79	.11(NS)	-3.08*
Children	80	6.24		2.83			

[a] The MSCA calls only for children 5 years and above to be tested on the Right-Left Orientation subtest.

*$p < .01$.

The Right-Left Orientation subtest was the other one of two subtests in which the mothers underestimated. The mean estimations by the mothers ($\bar{x}$ = 4.65) was 1.59 points lower than the mean score of the children ($\bar{x}$ = 6.24); the difference was significant ($p < .01$). The r of .11 was nonsignificant.

Table 41 shows the results for the Draw-A-Design subtest.

Table 41

Comparison of Mean Draw-A-Design Scores of Mothers' Estimations and Children's Performance

Group	n	$\bar{x}$	$\bar{x}$ diff.	sd	df	r	t
Mothers	258	11.19	5.40	4.65	257	.36*	19.34*
Children	258	5.79		2.86			

*$p < .001$.

The mean maternal estimation was 11.19; it was significantly higher (5.40 points; $p < .001$) than the mean of the children's score ($\bar{x}$ = 5.79). The correlation of .36 was significantly different from zero ($p < .001$).

Table 42 presents the results of the comparison for the Draw-A-Child subtest.

Table 42

Comparison of Mean Draw-A-Child Scores of Mothers' Estimations and Children's Performance

Group	n	$\bar{x}$	$\bar{x}$ diff.	sd	df	r	t
Mothers	258	10.91	2.82	4.10	257	.40*	10.25*
Children	258	8.09		3.99			

*p < .001.

The mean estimation of the mothers was 10.91, which was 2.82 points higher than the mean of 8.09 scored by the children. The difference was significant beyond the .001 level; the correlation of .40 was also significant ($p < .001$).

The results of the comparison for the Conceptual Grouping subtest are shown in Table 43.

Table 43

Comparison of Mean Conceptual Grouping Scores of Mothers' Estimations and Children's Performance

Group	n	$\bar{x}$	$\bar{x}$ diff.	sd	df	r	t
Mothers	257	8.62	2.22	2.91	256	.42*	11.91*
Children	257	6.40		2.63			

*p < .001.

The mean difference of 2.22 points between maternal estimations ($\bar{x} = 8.62$) and children's performance ($\bar{x} = 6.40$) was significant ($p < .001$); the r of .42 was significant ($p < .001$).

Quantitative Scale Subtests Comparisons

Table 44 shows the results of the Number Questions subtest.

Table 44

Comparison of Mean Number Questions Scores of Mothers' Estimations and Children's Performance

Group	n	$\bar{x}$	$\bar{x}$ diff.	sd	df	r	t
Mothers	258	8.13	1.59	3.13	257	.34*	7.55*
Children	258	6.54		2.74			

*$p < .001$.

The mean estimation by the mothers was 8.13, which was 1.59 points higher than the mean score of 6.54 performed by the children; this difference was significant beyond the .001 level. The r of .34 was also significant ($p < .001$).

The results of the Numerical Memory I subtest are contained in Table 45.

Table 45

Comparison of Mean Numerical Memory I Scores of Mothers' Estimations and Children's Performance

Group	n	$\bar{x}$	$\bar{x}$ diff.	sd	df	r	t
Mothers	257	5.40	.38	2.32	256	.33**	2.55*
Children	257	5.02		1.86			

*$p < .01$.

**$p < .001$.

The mean estimation by the mothers was 5.40, and the mean score performed by the children was 5.02. The difference of .38 points was significant beyond the .01 level, and the r of .33 was significant beyond the .001 level.

Table 46 shows the results of the Numerical Memory II subtest.

Table 46

Comparison of Mean Numerical Memory II Scores of Mothers' Estimations and Children's Performance

Group	n	$\bar{x}$	$\bar{x}$ diff.	sd	df	r	t
Mothers	254	2.67	2.26	3.21	253	.28*	11.47*
Children	254	.41		1.34			

$^{*}p < .001$.

The mean difference of 2.26 points between maternal estimations ($\bar{x}$ = 2.67) and children's performance ($\bar{x}$ = .41) was significant ($p < .001$) as was the r of .28 ($p < .001$).

The results of the Counting and Sorting subtest are shown in Table 47.

Table 47

Comparison of Mean Counting and Sorting Scores of Mothers' Estimations and Children's Performance

Group	n	$\bar{x}$	$\bar{x}$ diff.	sd	df	r	t
Mothers	258	6.17	1.00	2.17	257	.45*	7.46*
Children	258	5.17		1.89			

$^{*}p < .001$.

The mean maternal estimation was 6.17, and the mean score performed by the children was 5.17. The difference of 1.00 point and the observed r of .45, were significant ($p < .001$).

Question Number 3: Family Structural Variables

Tables 48-71 present data that are pertinent to the third research question, which asked: How are the family structural variables under study related to mothers' estimations of their children's actual cognitive performance? The 21 family structural variables that were studied are as follows:

1. older mothers vs. younger mothers
2. husband present vs. husband absent
3. extended family present vs. extended family absent
4. mothers of only one child vs. mothers of two or more children
5. mothers of boys vs. mothers of girls
6. Spanish-speaking mothers vs. English-speaking mothers
7. mothers of Spanish-speaking children vs. mothers of English-speaking children

8. mothers who worked vs. mothers who did not work
9. mothers born in Mexico vs. mothers born in USA
10. fathers born in Mexico vs. fathers born in USA
11. Mexico-born mothers of long USA residency vs. Mexico-born mothers of short USA residency
12. Mexico-born fathers of long USA residency vs. Mexico-born fathers of short USA residency
13. mothers schooled in Mexico vs. mothers schooled in the USA
14. fathers schooled in Mexico vs. fathers schooled in USA
15. families who were renting home vs. families who were buying home
16. mothers of high occupational status vs. mothers of low occupational status
17. fathers of high occupational status vs. fathers of low occupational status
18. mothers of high schooling attainment vs. mothers of low schooling attainment
19. fathers of high schooling attainment vs. fathers of low schooling attainment
20. mothers of high social class vs. mothers of low social class
21. fathers of high social class vs. fathers of low social class.

Table 48 shows the results of MSCA mean scale index score estimation comparisons of the mothers dichotomized by older mothers (30 years of age or more) and younger mothers (29 years of age or less).

Table 48

Comparisons of Younger vs. Older Mothers on All Mean Scale Index Estimations of Children's Performance

Group	n	$\bar{x}$	$\bar{x}$ diff.	sd	df	t
			GCI			
Older Mothers	93	109.89	-3.94	17.94	245	-1.49(NS)
Younger Mothers	154	113.83		21.32		
			Verbal			
Older Mothers	93	50.28	-4.71	11.23	245	-2.87**
Younger Mothers	154	54.99		13.22		
			Perceptual-Performance			
Older Mothers	93	62.13	- .60	11.35	245	- .41(NS)
Younger Mothers	154	62.73		11.19		
			Quantitative			
Older Mothers	93	53.73	- .74	10.37	245	- .47(NS)
Younger Mothers	154	54.47		12.67		
			Memory			
Older Mothers	93	50.35	-3.46	10.80	244	-2.12*
Younger Mothers	153	53.81		13.26		

*$p < .05$.

**$p < .01$.

The results of the older vs. younger mothers subgroup comparisons revealed that younger mothers estimated significantly higher performances for the Verbal and Memory Scales. For the GCI, Perceptual-Performance, and Quantitative Scales, the younger mothers also made higher estimations, but they were not significantly different from the older mothers.[2]

Table 49 presents the index estimations for the husband present vs. husband absent (husband not living in home at the time of the study) subgroup comparisons.

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[2] For brevity, the presentation of data from the remainder of the tables in the results section will not report the mean differences or significance levels. The reader can refer to the respective tables for these statistics.

Table 49

Comparisons of Mothers with Husband Present vs. Mothers with Husband Absent on All Mean Scale Index Estimations of Children's Performance

Group	*n*	$\bar{x}$	$\bar{x}$ diff.	sd	*df*	*t*
			GCI			
Husband Present	202	111.35	-5.11	20.39	246	-1.53(NS)
Husband Absent	46	116.46		20.52		
			Verbal			
Husband Present	202	52.69	-2.29	12.90	246	-1.09(NS)
Husband Absent	46	54.98		12.69		
			Perceptual-Performance			
Husband Present	202	61.84	-2.64	11.45	246	-1.43(NS)
Husband Absent	46	64.48		10.66		
			Quantitative			
Husband Present	202	53.45	-2.83	11.72	246	-1.47(NS)
Husband Absent	46	56.28		11.98		
			Memory			
Husband Present	201	51.82	-2.64	12.28	245	-1.28(NS)
Husband Absent	46	54.46		13.92		

The husband absent subgroup estimated higher performances of their children on each of the five scales, but none of the comparisons were significantly different.

The comparisons for the extended family present vs. extended family absent subgroups are shown in Table 50. Extended family was defined as any relatives or non relatives beyond the nuclear family living in the home.

Table 50

Comparisons of Mothers with Extended Family Present vs. Mothers with Extended Family Absent on All Mean Scale Index Estimations of Children's Performance

Group	*n*	$\bar{x}$	$\bar{x}$ diff.	sd	*df*	*t*
GCI						
Ext. Fam. Pres.	57	110.84	-2.11	21.14	249	-.69 (NS)
Ext. Fam. Abs.	194	112.95		20.05		
Verbal						
Ext. Fam. Pres.	57	52.56	- .96	11.98	249	- .49 (NS)
Ext. Fam. Abs.	194	53.52		13.07		
Perceptual-Performance						
Ext. Fam. Pres.	57	62.42	- .11	10.95	249	- .06 (NS)
Ext. Fam. Abs.	194	62.53		11.47		
Quantitative						
Ext. Fam. Pres.	57	54.11	- .19	12.44	249	- .11 (NS)
Ext. Fam. Abs.	194	54.30		11.54		
Memory						
Ext. Fam. Pres.	56	51.05	-1.96	12.21	248	-1.02 (NS)
Ext. Fam. Abs.	194	53.01		12.72		

The extended family absent subgroups gave higher estimations on each scale, but the mean differences were not significantly different.

Table 51 contains the results for the subgroups of mothers who had only one child in their families vs. the subgroup of mothers who had two or more children in their families.

Table 51

Comparisons of Mothers Who Had Only One Child vs. Mothers Who Had Two or More Children on All Mean Scale Index Estimations of Children's Performance

Group	n	$\bar{x}$	$\bar{x}$ diff.	sd	df	t
			GCI			
Only one child	38	115.37	3.51	17.19	257	.99(NS)
Two + children	221	111.86		20.72		
			Verbal			
Only one child	38	56.03	3.22	12.75	257	1.44(NS)
Two + children	221	52.81		12.75		
			Perceptual-Performance			
Only one child	38	63.97	1.78	10.13	257	.90(NS)
Two + children	221	62.19		11.44		
			Quantitative			
Only one child	38	57.00	3.29	8.76	257	1.60(NS)
Two + children	220	53.71		12.15		
			Memory			
Only one child	38	54.95	2.92	12.47	256	1.33(NS)
Two + children	221	52.03		12.51		

The subgroups of mothers who had only one child estimated their children's cognitive performance higher on all scale indexes; none of the differences were significant.

Table 52 shows the scale index score estimations of the mothers dichotomized by mothers of boys vs. mothers of girls.

Table 52

Comparisons of Mothers of Boys vs. Mothers of Girls on All Mean Scale Index Estimations of Children's Performances

Group	*n*	$\bar{x}$	$\bar{x}$ diff.	sd	*df*	*t*
GCI						
Mothers of Boys	107	111.39	-1.56	20.21	253	-.60(NS)
Mothers of Girls	148	112.95		20.50		
Verbal						
Mothers of Boys	107	52.90	- .63	13.31	253	-.39(NS)
Mothers of Girls	148	53.53		12.48		
Perceptual-Performance						
Mothers of Boys	107	61.09	-2.18	11.68	253	-1.52(NS)
Mothers of Girls	148	63.27		10.97		
Quantitative						
Mothers of Boys	107	54.05	- .10	10.87	253	-.07(NS)
Mothers of Girls	148	54.15		12.48		
Memory						
Mothers of Boys	107	51.63	-1.38	12.93	252	-.87(NS)
Mothers of Girls	147	53.01		12.38		

Although none of the mean differences were significant, the mothers of girls subgroup estimated higher performances on all scales compared to the mothers of boys subgroup.

The comparisons for the Spanish-speaking mothers vs. English-speaking mothers subgroups are presented in Table 53.

Table 53

Comparisons of Spanish-Speaking Mothers vs. English-Speaking Mothers on All Mean Scale Index Estimations of Children's Performance

Group	n	$\bar{x}$	$\bar{x}$ diff.	sd	df	t
			GCI			
Span.-spkg.Mom	168	108.80	-10.67	19.57	240	-3.84*
Eng.-spkg. Mom	74	119.47		20.64		
			Verbal			
Span.-spkg.Mom	168	50.54	- 7.65	11.87	240	-4.48*
Eng.-spkg. Mom	74	58.19		13.02		
			Perceptual-Performance			
Span.-spkg.Mom	168	61.51	- 2.91	11.70	240	-1.84 (NS)
Eng.-spkg. Mom	74	64.42		10.53		
			Quantitative			
Span.-spkg.Mom	168	52.14	- 6.21	11.59	240	-3.84*
Eng.-spkg. Mom	74	58.35		11.58		
			Memory			
Span.-spkg.Mom	167	50.14	- 7.20	11.84	239	-4.26*
Eng.-spkg. Mom	74	57.34		12.71		

$^*p < .001$.

For all scale indexes, the English-speaking mothers subgroup's mean estimations were higher than the Spanish-speaking subgroups mean estimations. These differences were significant except for the Perceptual-Performance Scale.

Table 54 shows the results for the mothers of Spanish-speaking children vs. mothers of English-speaking children.

Table 54

Comparisons of Mothers of Spanish-Speaking Children vs. Mothers of English-Speaking Children on All Mean Scale Index Estimations of Children's Performance

Group	n	$\bar{x}$	$\bar{x}$ diff.	sd	df	t
			GCI			
Span.-spkg child.	140	109.52	-7.02	19.29	241	-2.74*
Eng.-spkg. child.	103	116.54		20.35		
			Verbal			
Span.-spkg child.	140	50.84	-6.07	11.70	241	-3.77**
Eng.-spkg. child.	103	56.91		13.27		
			Perceptual-Performance			
Span.-spkg. child.	140	61.98	-1.23	11.51	241	- .85(NS)
Eng.-spkg. child.	103	63.21		10.75		
			Quantitative			
Span.- spkg.child.	140	52.44	-3.99	11.54	241	-2.70*
Eng.-spkg. child.	103	56.43		11.18		
			Memory			
Span.-spkg, child.	139	50.32	-4.81	12.07	240	-3.00*
Eng.-spkg. child.	103	55.13		12.60		

$^{*}p < .01$.

$^{**}p < .001$.

As was seen in Table 53, the estimations made by the English-speaking subgroups were significantly higher on all scales, except for the Perceptual-Performance Scale.

The comparisons for the subgroup of mothers who were employed outside the home vs. the subgroup of mothers who were not employed are shown in Table 55.

Table 55

Comparisons of Working Mothers vs. Nonworking Mothers on All Mean Scale Index Estimations of Children's Performance

Group	n	$\bar{x}$	$\bar{x}$ diff.	sd	df	t
GCI						
Working mothers	121	111.97	-.62	19.67	249	-.24(NS)
Nonwork.mothers	130	112.59		20.75		
Verbal						
Working mothers	121	53.79	-.99	12.09	249	-.61(NS)
Nonwork. mothers	130	52.80		13.33		
Perceptual-Performance						
Working mothers	121	62.60	.18	10.99	249	.13(NS)
Nonwork. mothers	130	62.42		11.64		
Quantitative						
Working mothers	121	53.71	-.72	11.84	249	-.48(NS)
Nonwork. mothers	130	54.43		11.86		
Memory						
Working mothers	120	52.83	.85	12.63	248	.54(NS)
Nonwork. mothers	130	51.98		12.64		

The results show that none of the scale comparisons were significantly different. Working mothers gave very slightly higher estimations on the Verbal, Perceptual-Performance, and Memory Scales, and nonworking mothers estimated very slightly higher performances on the GCI and Quantitative Scales.

Table 56 contains the results of the comparisons for the mothers born in Mexico vs. mothers born in the USA subgroups.

Table 56

Comparisons of Mothers Born in Mexico vs. Mothers Born in USA on All Mean Scale Index Estimations of Children's Performance

Group	*n*	$\bar{x}$	$\bar{x}$ diff.	sd	*df*	*t*
			GCI			
Born in Mexico	151	109.64	-6.44	19.59	252	-2.51*
Born in USA	103	116.08		20.76		
			Verbal			
Born in Mexico	151	51.27	-4.97	11.78	252	-3.10**
Born in USA	103	56.24		13.63		
			Perceptual-Performance			
Born in Mexico	151	61.70	-1.54	11.66	252	-1.07(NS)
Born in USA	103	63.24		10.78		
			Quantitative			
Born in Mexico	151	52.38	-4.18	11.71	252	-2.81**
Born in USA	103	56.56		11.50		
			Memory			
Born in Mexico	150	50.79	-4.03	11.90	252	-2.52*
Born in USA	103	54.82		13.26		

*$p < .05$.

**$p < .01$.

On all scales, the mothers born in the USA subgroup estimated their children's cognitive performance higher compared to the mothers born in Mexico subgroup. Except for the Perceptual-Performance Scale comparison, all mean differences were significant.

Table 57, the follow-up of Table 56, compared the mothers who had spouses born in Mexico vs. mothers who had spouses born in the USA.

Table 57

Comparisons of Fathers Born in Mexico vs. Fathers Born in USA on All Mean Scale Index Estimations of Children's Performance

Group	n	$\bar{x}$	$\bar{x}$ diff.	sd	df	t
GCI						
Born in Mexico	153	109.16	-8.93	20.02	218	-3.05**
Born in USA	67	118.09		19.85		
Verbal						
Born in Mexico	153	51.59	-4.72	12.44	218	-2.55*
Born in USA	67	56.31		13.07		
Perceptual-Performance						
Born in Mexico	153	61.12	-3.03	11.71	218	-1.82(NS)
Born in USA	67	64.15		10.55		
Quantitative						
Born in Mexico	153	52.38	-4.19	11.65	218	-2.46*
Born in USA	67	56.57		11.60		
Memory						
Born in Mexico	152	50.95	-4.62	12.21	217	-2.58*
Born in USA	67	55.57		12.13		

$^{*}p < .05.$

$^{**}p < .01.$

For the fathers, the same findings of the mother comparisons were revealed. On all scales, mothers who had spouses born in the USA gave higher estimations; all differences, except the comparison for the Perceptual-Performance Scale, were significant.

The results presented in Table 58 were subanalyses of the Mexico-born mothers. The estimations of mothers of long residency in the USA (10 years or more) were compared to the estimations of mothers of short residency in the USA (9 years or less).

Table 58

Comparisons of Mexico-Born Mothers of Long USA Residency vs. Mexico-Born Mothers of Short USA Residency on All Mean Scale Index Estimations of Children's Performance

Group	n	$\bar{x}$	$\bar{x}$ diff.	sd	df	t
GCI						
Long Residency	80	112.20	5.21	18.96	149	1.62(NS)
Short Residency	71	106.99		20.77		
Verbal						
Long Residency	80	52.79	3.01	12.34	149	1.54(NS)
Short Residency	71	49.78		11.65		
Perceptual-Performance						
Long Residency	80	62.80	2.22	11.32	149	1.17(NS)
Short Residency	71	60.58		12.07		
Quantitative						
Long Residency	80	53.51	2.22	10.98	149	1.15(NS)
Short Residency	71	51.29		12.75		
Memory						
Long Residency	80	52.66	3.60	11.71	148	1.84(NS)
Short Residency	70	49.06		12.36		

Although the subgroup of mothers of long USA residency gave higher estimations on all scales, none of the differences were significant.

Table 59 presents the results of the mothers who had spouses of long USA residency vs. mothers who had spouses of short USA residency subgroups.

Table 59

Comparisons of Mexico-Born Fathers of Long USA Residency vs. Mexico-Born Fathers of Short Residency on All Mean Scale Index Estimations of Children's Performance

Group	n[a]	$\bar{x}$	$\bar{x}$ diff.	sd	df	t
GCI						
Long Residency	84	112.67	5.15	21.41	144	1.54(NS)
Short Residency	62	107.52		17.77		
Verbal						
Long Residency	84	52.99	1.54	12.91	144	.73(NS)
Short Residency	62	51.45		11.88		
Perceptual-Performance						
Long Residency	84	62.95	3.13	11.62	144	1.65(NS)
Short Residency	62	59.82		10.86		
Quantitative						
Long Residency	84	55.18	4.74	11.35	144	2.48*
Short Residency	62	50.44		11.47		
Memory						
Long Residency	83	53.40	4.30	12.02	143	2.19*
Short Residency	62	49.10		11.24		

[a] Of the 153 fathers born in Mexico, length of USA residency data were available only for 146 subjects.

* $p < .05$.

As was the case of the mothers' residency comparisons, mothers who had spouses of long USA residency gave higher estimations on all scales. Significant differences were found on the Quantitative and Memory Scales.

Table 60 shows the results of the scale comparisons of the mothers schooled in Mexico vs. mothers schooled in the USA subgroups.

Table 60

Comparisons of Mothers Who Were Schooled in Mexico vs. Mothers Who Were Schooled in USA on All Mean Scale Index Estimations of Children's Performance

Group	*n*	$\bar{x}$	$\bar{x}$ diff.	sd	*df*	*t*
		GCI				
Ed. in Mexico	110	106.70	-9.66	20.68	246	-3.85**
Ed. in USA	138	116.36		18.73		
		Verbal				
Ed. in Mexico	110	49.36		11.86	246	-4.40**
Ed. in USA	138	56.23		12.50		
		Perceptual-Performance				
Ed. in Mexico	110	60.23	-3.68	12.36	246	-2.59*
Ed. in USA	138	63.91		10.07		
		Quantitative				
Ed. in Mexico	110	51.31	-4.92	12.25	246	-3.32**
Ed. in USA	138	56.23		11.06		
		Memory				
Ed. in Mexico	110	49.52	-5.30	72.46	245	-3.34**
Ed. in USA	138	54.82		12.29		

*$p < .01$.

**$p < .001$.

The results of Table 60 show that the mothers schooled in the USA subgroup estimated significantly higher performances on all five scales.

Table 61, the follow-up to Table 60, presents the results of the comparisons for the mothers who had spouses schooled in Mexico vs. the USA.

Table 61

Comparisons of Fathers Who Were Schooled in Mexico vs. Fathers Who Were Schooled in USA on All Mean Scale Index Estimations of Children's Performance

Group	n	$\bar{x}$	$\bar{x}$ diff.	sd	df	t
			GCI			
Ed. in Mexico	133	108.80	-7.33	19.83	198	-2.46*
Ed. in USA	67	116.13		20.11		
			Verbal			
Ed. in Mexico	133	50.83	-5.27	12.25	198	-2.79**
Ed. in USA	67	56.10		13.33		
			Perceptual-Performance			
Ed. in Mexico	133	61.32	-1.58	11.65	198	- .92(NS)
Ed. in USA	67	62.90		10.83		
			Quantitative			
Ed. in Mexico	133	52.53	-2.72	11.46	198	-1.55(NS)
Ed. in USA	67	55.25		12.28		
			Memory			
Ed. in Mexico	132	50.55	-3.58	12.04	197	-1.95(NS)
Ed. in USA	67	54.13		12.71		

*$p < .05$.

**$p < .01$.

The subgroup of mothers who had spouses schooled in the USA gave higher estimations on all MSCA scales. Significant differences were found on the GCI and Verbal Scales.

Tables 62-68 contain family structural data which can best be categorized as socioeconomic status data. Table 62 presents the estimations for the subgroup of mothers of families who were renting homes vs. the subgroup of mothers of families who were buying homes.

Table 62

Comparisons of Families Renting Home vs. Families Buying Home on All Mean Scale Index Estimations of Children's Performance

Group	n	$\bar{x}$	$\bar{x}$ diff.	sd	df	t
GCI						
Renting Home	191	112.95	2.17	20.37	249	.72(NS)
Buying Home	60	110.78		19.98		
Verbal						
Renting Home	191	53.37	.19	12.57	249	.10(NS)
Buying Home	60	53.18		13.65		
Perceptual-Performance						
Renting Home	191	62.88	1.51	11.36	249	.91(NS)
Buying Home	60	61.37		10.94		
Quantitative						
Renting Home	191	54.18	.05	12.01	249	.03(NS)
Buying Home	60	54.13		11.25		
Memory						
Renting Home	190	52.64	.19	12.68	248	.10(NS)
Buying Home	60	52.45		12.13		

For all scales, the subgroup of mothers who were from families renting their homes made very slightly higher estimations of their children's performance; none of the differences were significant.

Table 63 shows the results of the scale score estimation comparisons of the mothers dichotomized by high job status (value labels 6 and 7 on Hollingshead job title) and low job status (value labels 2-5 on Hollingshead job title).[3]

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[3] Refer to pages 49-50 for further description of the Hollingshead Index.

Table 63

Comparisons of Mothers of High Occupational Status vs. Mothers of Low Occupational Status on All Mean Scale Index Estimations of Children's Performance

Group	n	$\bar{x}$	$\bar{x}$ diff.	sd	df	t
			GCI			
Hi Job Status	58	116.09	4.87	15.70	253	1.61(NS)
Lo Job Status	197	111.22		21.31		
			Verbal			
Hi Job Status	58	55.71	3.12	10.95	253	1.64(NS)
Lo Job Status	197	52.59		13.20		
			Perceptual-Performance			
Hi Job Status	58	63.59	1.50	8.63	253	.89(NS)
Lo Job Status	197	62.09		11.97		
			Quantitative			
Hi Job Status	58	56.64	3.26	9.31	253	1.86(NS)
Lo Job Status	197	53.38		12.36		
			Memory			
Hi Job Status	58	56.16	4.81	10.92		2.59*
Lo Job Status	197	51.35		12.84		

*$p < .01$.

The subgroup of mothers of high occupational status estimated higher performances on all scale indexes, but the only significant difference was found on the comparison for the Memory Scale.

Table 64, the follow-up to Table 63, contains the results of the comparisons for the mothers who had spouses of high vs. low occupational status.

→

Table 64

Comparisons of Fathers of High Occupational Status vs. Fathers of Low Occupational Status on All Mean Scale Index Estimations of Children's Performance

Group	n	$\bar{x}$	$\bar{x}$ diff.	sd	df	t
			GCI			
Hi Job Status	76	118.25	10.54	20.02	206	3.71**
Lo Job Status	132	107.71		19.54		
			Verbal			
Hi Job Status	76	56.92	6.53	12.79	206	3.63**
Lo Job Status	132	50.39		12.31		
			Perceptual-Performance			
Hi Job Status	76	65.05	4.97	10.19	206	3.10*
Lo Job Status	132	60.08		11.64		
			Quantitative			
Hi Job Status	76	55.63	3.22	13.16	206	1.93(NS)
Lo Job Status	132	52.41		10.64		
			Memory			
Hi Job Status	76	56.05	6.49	12.71	205	3.80**
Lo Job Status	131	49.56		11.35		

*$p < .01$.

**$p < .001$.

For all scales, the mothers who had spouses of high occupational status, compared to mothers who had spouses of low occupational status, estimated higher performances; significant differences were found on all scales except the Quantitative Scale.

Table 65 shows the scale estimations of the mothers dichotomized by high schooling attainment (10 years or more) and low schooling attainment (9 years or less).

Table 65

Comparisons of Mothers of High Schooling Attainment vs. Mothers of Low Schooling Attainment on All Mean Scale Index Estimations of Children's Performance

Group	*n*	$\bar{x}$	$\bar{x}$ diff.	sd	*df*	*t*
GCI						
Hi Sch. Attain.	124	117.20	9.56	19.41	254	3.89*
Lo Sch. Attain.	132	107.64		19.94		
Verbal						
Hi Sch. Attain.	124	57.06	7.35	12.75	254	4.80*
Lo Sch. Attain.	132	49.71		11.74		
Perceptual-Performance						
Hi Sch. Attain.	124	63.73	2.59	10.28	254	1.84(NS)
Lo Sch. Attain.	132	61.14		12.07		
Quantitative						
Hi Sch. Attain.	124	57.04	5.67	11.03	254	3.96*
Lo Sch. Attain.	132	51.37		11.83		
Memory						
Hi Sch. Attain.	124	55.65	6.31	12.63	253	4.13*
Lo Sch. Attain.	131	49.34		11.74		

*$p < .001$.

The subgroup of mothers of high schooling attainment estimated significantly higher performances of their children on all scales, except for the Perceptual-Performance Scale.

Table 66, the follow-up to Table 65, compared estimations of mothers of spouses who had high vs. low schooling attainment.

Table 66

Comparisons of Fathers of High Schooling Attainment vs. Fathers of Low Schooling Attainment on All Mean Scale Index Estimations of Children's Performance

Group	n	$\bar{x}$	$\bar{x}$ diff.	sd	df	t
GCI						
Hi Sch. Attain.	73	119.74	10.50	17.53	204	4.49***
Lo Sch. Attain.	133	107.24		19.93		
Verbal						
Hi Sch. Attain.	73	58.92	9.43	11.76	204	5.40***
Lo Sch. Attain.	133	49.49		11.89		
Perceptual-Performance						
Hi Sch. Attain.	73	64.25	3.40	9.78	204	2.09*
Lo Sch. Attain.	133	60.85		11.84		
Quantitative						
Hi Sch. Attain.	73	56.69	4.79	11.26	204	2.86**
Lo Sch. Attain.	133	51.90		11.61		
Memory						
Hi Sch. Attain.	73	56.34	6.82	11.77	203	4.00***
Lo Sch. Attain.	132	49.52		11.66		

*$p < .05$.

**$p < .01$.

***$p < .001$.

The subgroup of mothers of spouses who had higher schooling attainment gave significantly higher estimations on all MSCA scales.

Table 67 shows the results for the mothers of high social class (value labels 1-3 on Hollingshead class levels) vs. mothers of low social class (value labels 4-5 on Hollingshead class levels).

Table 67

Comparisons of Mothers of High Social Class vs. Mothers of Low Social Class on All Mean Scale Index Estimations of Children's Performance

Group	n	$\bar{x}$	$\bar{x}$ diff.	sd	df	t
		GCI				
Hi Soc. Class	34	119.18	7.98	16.13	252	2.15*
Lo Soc. Class	220	111.20		20.66		
		Verbal				
Hi Soc. Class	34	57.50	4.88	11.12	252	2.09*
Lo Soc. Class	220	52.62		12.93		
		Perceptual-Performance				
Hi Soc. Class	34	65.21	3.24	8.09	252	1.56(NS)
Lo Soc. Class	220	61.97		11.68		
		Quantitative				
Hi Soc. Class	34	57.88	4.40	9.42	252	2.0[illegible]*
Lo Soc. Class	220	53.48		12.02		
		Memory				
Hi Soc. Class	34	56.59	4.79	11.31	251	2.08*
Lo Soc. Class	219	51.80		12.69		

*$p < .05$

For all scale comparisons, the mothers of high social class gave higher estimations; the only difference that was nonsignificant was for the Perceptual-Performance Scale comparison.

The follow-up data for Table 67 is presented in Table 68. The comparisons are for the mothers of spouses of high social class vs. mothers of spouses of low social class.

Table 68

Comparisons of Fathers of High Social Class vs. Fathers of Low Social Class on All Mean Scale Index Estimations of Children's Performance

Group	*n*	$\bar{x}$	$\bar{x}$ diff.	sd	*df*	*t*
GCI						
Hi Soc. Class	21	124.00	13.87	19.08	205	3.02*
Lo Soc. Class	186	110.13		20.02		
Verbal						
Hi Soc. Class	21	61.19	9.36	11.93	205	3.23**
Lo Soc. Class	186	51.83		12.64		
Perceptual-Performance						
Hi Soc. Class	21	66.14	4.74	9.98	205	1.82(NS)
Lo Soc. Class	186	61.40		11.44		
Quantitative						
Hi Soc. Class	21	59.90	7.01	10.50	205	2.64*
Lo Soc. Class	186	52.89		11.64		
Memory						
Hi Soc. Class	21	60.19	9.21	11.94	204	3.36**
Lo Soc. Class	185	50.98		11.90		

*$p < .01$.

**$p < .001$.

The subgroup of mothers of spouses who were categorized as high social class gave significantly higher estimations on all scales except for the Perceptual-Performance Scale.

The preceding data presented in Tables 48-68 addressed the question of estimation levels across the various family structural categories. That is, how did the various subgroups compare in their mean estimation levels of the children's performance? The next three tables (Tables 69-71) contain data that attempt to address the question of estimation accuracy. Specifically, did the subgroup comparisons in the 21 family structural variables vary in their accuracy of estimations?

Table 69, below, compares "congruency scores" for the 21 family structural variables on the five scale indexes of the MSCA. A congruency score is defined as the difference between the estimation given by the mother and the child's actual score. The greater the difference, the less congruent (hence less accurate) the mother is. The smaller the difference, the more congruent (hence more accurate) the mother is. The data presented in Table 69 are for mean congruency scores for the various subgroups of mothers. All congruency scores represent maternal overestimations. The column labeled "$\bar{x}$" lists the congruency scores for each subgroup, and the column labeled "$\bar{x}$ diff." denotes the difference between the congruency scores for the two subgroups for each family structural variable. For example, concerning older mothers, the congruency score (difference between mothers' estimations and children's actual scores) for the GCI Scale was 16.52 points; the congruency score for younger mothers for the GCI Scale was 17.25. The difference ($\bar{x}$ diff.) between younger and older mothers was .73 points. Thus, in "absolute accuracy" (absolute differences in the mean congruency scores), older mothers compared to younger mothers were more accurate for GCI estimations. In "statistical chance accuracy," the .73 difference is nonsignificant. Therefore, age category of mothers is not related to accuracy in the case of the statistical chance accuracy index. Table 69 shows the comparisons of congruency scores by these two accuracy indexes for the 21 family structural variables across the five MSCA scales.

Table 69

Comparisonsof Congruency Scores for Family Structural Variables on All Mean Scale Index Score Estimations of Children's Performance

Variable	GCI		V		PP		Q		M	
	$\bar{X}$	$\bar{X}$ diff.	$\bar{X}$	$\bar{X}$ diff.	$\bar{X}$	$\bar{X}$ diff.	$\bar{X}$	$\bar{X}$ diff.	$\bar{X}$	$\bar{X}$ diff.
Older Mothers	16.52	- .73[a]	5.58	-2.28	11.63	- .82	7.25	- .21	7.36	.07
Younger Mothers	17.25		7.86		12.45		7.46		7.29	
Husband Present	16.09	-4.21	6.81	-1.47	11.73	-2.23	6.76	-3.50	6.86	-2.07
Husband Absent	20.30		8.28		13.96		10.26		8.93	
Ex. Family Present	14.83	-2.80	5.32	-2.44	12.70	.50	7.54	- .16	5.88	-2.03
Ex. Family Absent	17.63		7.76		12.20		7.70		7.91	
Only One Child	16.97	.04	8.13	1.04	11.97	- .31	9.47	2.19	8.29	1.04
Two or More Children	16.93		7.09		12.28		7.28		7.25	
Mothers of Boys	18.40	2.72	8.39	2.00	11.96	- .30	8.88	2.46	7.89	.97
Mothers of Girls	15.68		6.39		12.26		6.42		6.92	
Span.-Spkg. Mothers	16.76	- .47	6.49	-1.79	12.76	1.69	7.58	- .45	7.41	- .85
Eng.-Spkg. Mothers	17.23		8.28		11.07		8.03		8.26	
Span.-Spkg. Children	17.44	1.22	6.93	- .66	13.00	1.63	8.02	1.11	7.77	1.32
Eng.-Spkg. Children	16.22		7.59		11.37		6.91		6.45	
Working Mothers	16.35	- .87	7.89	1.31	12.35	.19	6.34	-2.22	7.66	.69
Nonworking Mothers	17.22		6.58		12.16		8.56		6.97	

Table 69 (cont.)

Comparison of Congruency Scores for Family Structural Variables on All Mean Scale Index Score Estimations of Children's Performance

Variable	GCI		V		PP		Q		M	
	$\bar{X}$	$\bar{X}$ diff.	$\bar{X}$	$\bar{X}$ diff.	$\bar{X}$	$\bar{X}$ diff.	$\bar{X}$	$\bar{X}$ diff.	$\bar{X}$	$\bar{X}$ diff.
Mothers Born in Mexico	16.91	.48	6.94	- .56	12.41	.72	7.53	.29	7.74	1.06
Mothers Born in USA	16.43		7.50		11.69		7.24		6.68	
Fathers Born in Mexico	14.86	-4.17	6.12	-1.70	11.61	-1.11	6.24	-1.92	6.88	-.54
Fathers Born in USA	19.03		7.82		12.72		8.16		7.42	
Mothers of Long Res.	18.89	3.61	7.99	1.91	13.26	1.47	8.85	2.17	8.03	.23
Mothers of Short Res.	15.28		6.08		11.79		6.68		7.80	
Fathers of Long Res.	15.83	.12	6.29	-1.24	11.98	.40	7.50	2.16	8.52	2.49
Fathers of Short Res.	15.71		7.53		11.58		5.34		6.03	
Mothers Ed. in Mexico	14.41	-3.65	5.25	-3.07*	11.40	-1.19	6.55	-1.49	7.14	-.24
Mothers Ed. in USA	18.06		8.32		12.59		8.04		7.38	
Fathers Ed. in Mexico	15.35	-1.35	6.17	-1.35	11.79	.46	6.82	.36	7.25	1.62
Fathers Ed. in USA	16.70		7.52		11.33		6.46		5.63	
Families Rent Home	17.84	4.27	7.40	1.10	12.87	2.50	7.88	1.73	7.90	2.07
Families Buy Home	13.57		6.30		10.37		6.15		5.83	
Mothers of Hi Occ.	18.35	1.93	8.05	1.03	12.93	.90	8.29	1.06	8.90	2.01
Mothers of Lo Occ.	16.42		7.02		12.03		7.23		6.89	

Table 69 (cont.)

Comparison of Congruency Scores for Family Structural Variables on All Mean Scale Index Score Estimations of Children's Performance

Variable	GCI		V		PP		Q		M	
	$\bar{X}$	$\bar{X}$ diff.	$\bar{X}$	$\bar{X}$ diff.	$\bar{X}$	$\bar{X}$ diff.	$\bar{X}$	$\bar{X}$ diff.	$\bar{X}$	$\bar{X}$ diff.
Fathers of Hi Occ.	18.46	3.75	8.12	2.25	12.96	1.84	6.51	- .40	8.36	2.35
Fathers of Lo Occ.	14.71		5.87		11.12		6.91		6.01	
Mothers of Hi Ed.	17.27	.98	8.48	2.54	11.34	-1.62	7.78	.56	7.61	.58
Mothers of Lo Ed.	16.29		5.94		12.96		7.22		7.03	
Fathers of Hi Ed.	18.97	4.20	9.56	4.17*	11.74	- .29	7.45	1.07	7.27	.44
Fathers of Lo Ed.	14.77		5.39		12.03		6.38		6.83	
Mothers of Hi Class	18.68	2.15	8.41	1.37	12.82	.70	8.09	.76	6.82	-.59
Mothers of Lo Class	16.53		7.04		12.12		7.33		7.41	
Fathers of Hi Class	18.05	2.10	8.76	2.23	11.00	-.89	7.91	1.16	9.48	2.75
Fathers of Lo Class	15.95		6.53		11.89		6.75		6.73	

[a] All mean differences are nonsignificant, unless indicated by an asterisk.

*$p < .05$.

Using the absolute accuracy index, the results shown in Table 69 indicate that mothers who were more accurate (lower congruency scores) on the majority of the five scales can be generally characterized as:

- being older (more accurate on 4 of 5 scales)
- having husband present (5 of 5 scales)
- having extended family present (4 of 5 scales)
- having two or more children (4 of 5 scales)
- being a mother of girls (4 of 5 scales)
- being Spanish-speaking (4 of 5 scales)
- having English-speaking children (4 of 5 scales)
- being a working mother (3 of 5 scales)
- being born in the USA (4 of 5 scales)
- having a spouse born in Mexico (5 of 5 scales)
- having a short USA residency (if born in Mexico) (5 of 5 scales)
- having a spouse of short USA residency (if spouse was born in Mexico) (4 of 5 scales)
- being schooled in Mexico (5 of 5 scales)
- having a spouse who was schooled in the USA (3 of 5 scales)
- coming from families who were buying homes (5 of 5 scales)
- being of lower occupational status (5 of 5 scales)
- having a spouse of lower occupational status (4 of 5 scales)

- having lower schooling attainment (4 of 5 scales)
- having a spouse of lower schooling attainment (4 of 5 scales)
- being of lower social class (4 of 5 scales)
- having a spouse of lower social class (4 of 5 scales).

However, when using the statistical chance accuracy index, only 2 of the 105 mean differences shown in Table 69 are statistically different (mothers schooled in Mexico had significantly lower congruency scores for the Verbal Scale compared to mothers schooled in the USA, and mothers who had spouses of higher schooling attainment had significantly lower congruency scores for the Verbal Scale compared to mothers who had spouses of high schooling attainment). Therefore, using the statistical chance accuracy index as an indicator, the various subgroups of mothers showed no statistical differences in accuracy of their estimations.

As previously discussed (see results for Tables 26-47), another accuracy index that can be used is "predictive ability accuracy." A form of this index was used for the data analyses presented in Table 70, which correlates congruency scores with maternal estimations. A positive correlation would indicate that as maternal estimations increase so do congruency scores. That is, as mothers' estimations increase so do the differences between estimations and actual performances (congruency scores). The higher the correlation would indicate that the higher the estimations, the greater the congruency score (greater inaccuracy). Thus, higher correlations indicate that the higher the mothers estimate, the more inaccurate they tend to be. The results of the predictive ability accuracy index for the 21 family structural variables across the MSCA scales are shown in Table 70.

Table 70

Comparisons of Correlations Between Congruency Scores and Mothers' Estimations by Family Structural Variables

Variable		GCI	V	PP	Q	M
	n[a]	r[b]	r	r	r	r
Older Mothers	76	.70	.73	.62	.70	.74
Younger Mothers	118	.76	.72	.65	.76	.71
Husband Present[c]	. . . . . . data not analyzed					
Husband Absent	. . . . . . data not analyzed					
Ex. Family Present	41	.77	.68	.71	.79	.63
Ex. Family Absent	161	.73	.74	.63	.72	.72
Only One Child	22	.32[d]	.66	.45*	.28[d]	.68
Two or More Children	179	.76	.73	.66	.76	.72
Mothers of Boys	89	.76	.79	.67	.63	.76
Mothers of Girls	112	.73	.67	.62	.79	.67
Span.-Spkg. Mothers	140	.76	.71	.70	.77	.72
Eng.-Spkg. Mothers	49	.79	.78	.59	.83	.82
Span.-Spkg. Children	119	.77	.73	.71	.74	.75
Eng.-Spkg. Children	72	.74	.75	.57	.75	.73
Working Mothers	91	.70	.70	.66	.66	.62
Nonworking Mothers	107	.76	.74	.63	.79	.77
Mothers Born in Mexico	131	.75	.72	.68	.75	.72
Mothers Born in USA	70	.74	.74	.57	.76	.75

Table 70 (cont.)

Variable	n[a]	GCI r[b]	V r	PP r	Q r	M r
Fathers Born in Mexico	141	.71	.71	.62	.70	.68
Fathers Born in USA	55	.81	.78	.73	.80	.81
Mothers of Long Res.	65	.78	.81	.65	.71	.75
Mothers of Short Res.	66	.74	.64	.70	.78	.74
Fathers of Long Res.	77	.77	.77	.59	.73	.74
Fathers of Short Res.	61	.60	.64	.62	.67	.54
Mothers Ed. in Mexico	98	.73	.67	.69	.74	.72
Mothers Ed. in USA	97	.73	.74	.58	.76	.73
Fathers Ed. in Mexico	131	.73	.70	.65	.72	.70
Fathers Ed. in USA	65	.77	.77	.64	.77	.79
Families Rent Home	148	.76	.71	.69	.75	.74
Families Buy Home	53	.68	.76	.44	.71	.63
Mothers of Hi Occ.	37	.52	.72	.33*	.38*	.49
Mothers of Lo Occ.	164	.76	.72	.68	.77	.73
Fathers of Hi Occ.	74	.70	.69	.60	.79	.69
Fathers of Lo Occ.	127	.76	.74	.67	.70	.72
Mothers of Hi Ed.	89	.74	.75	.59	.74	.75
Mothers of Lo Ed.	113	.76	.70	.70	.76	.72
Fathers of Hi Ed.	71	.70	.76	.51	.73	.76
Fathers of Lo Ed.	129	.76	.70	.70	.74	.72

Table 70 (cont.)

Variable	n[a]	GCI r[b]	V r	PP r	Q r	M r
Mothers of Hi Class	19	.58**	.75	.37[d]	-.02[d]	.32[d]
Mothers of Lo Class	182	.75	.72	.65	.77	.73
Fathers of Hi Class	21	.68	.76	.50*	.65	.75
Fathers of Lo Class	179	.76	.73	.67	.75	.72

[a] This analysis is for the husband present subset (maximum $n = 202$).

[b] All r's are significant beyond the .001 level unless designated otherwise.

[c] Since the husband present subset was the sample, the husband present vs. husband absent comparison was not analysed.

[d] Indicates a nonsignificant r.

*$p < .05$.

**$p < .01$.

One of the major findings that can be concluded from the correlations of Table 70 is that the estimation levels of mothers, regardless of subgroupings, were positively related to congruency scores. That is, as mothers' estimations increased, so did congruency scores. Hence, as maternal estimations increased, so did inaccuracy. Analysis of the subgroups for each of the 21 family structural variables revealed that the characteristics of mothers who were more accurate as defined by the absolute accuracy index (Table 69) were very similar to the characteristics of mothers as measured by the predictive ability accuracy index.[4] Generally speaking, there were some exceptions to the absolute accuracy index patterns listed after Table 69. The exceptions of maternal subgroups who were more accurate on the majority of the five scales were mothers generally characterized as:

- having only one child (more accurate on 5 of 5 scales)
- being born in Mexico (3 of 5 scales)
- having a spouse who was schooled in Mexico (4 of 5 scales)

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[4] Variations in patterns between the two accuracy indexes are partially due to the nature of the indexes and because the sample for the results presented in Table 70 is the "husband present subsample" and the sample for the results presented in Table 69 is for the total sample.

- being of higher occupational status (4 of 5 scales)
- having a spouse of higher occupational status (4 of 5 scales)
- having higher educational attainment (3 of 5 scales)
- having a spouse of higher educational attainment (3 of 5 scales)
- being of higher social class (4 of 5 scales)
- having a spouse of higher social class (3 of 5 scales)

A final way of analysing accuracy was to compare the absolute levels of mothers' estimations with the absolute levels of the children's actual performance and to see if the mean differences of the two subgroups per family structural variables were significant. For example, in Table 71 below, it was found that for the older vs. younger mothers subgroups, younger mothers gave higher (but not significantly higher) estimations of their children's actual performance (see Table 48 for the statistics). Table 71 also shows that the children's actual performance was also higher (but not significantly so) for children of the younger mothers subgroup.[5] This indicates that younger mothers were relatively accurate in estimating that their children would actually perform higher than the older mothers counterparts. In addition to the comparisons of absolute levels, Table 71 also shows whether the estimation/actual performance levels are significantly different. For example, in the case of the Verbal Scale comparison, younger mothers gave significantly higher estimations compared to older mothers and the children's actual performance of the younger mothers subgroup was significantly higher on the Verbal Scale compared to the children's actual performance of the older mothers subgroup. Again in a post hoc manner, this would indicate relatively good accuracy on the part of the younger mothers. Table 71 presents the comparisons of mothers estimations and children's performances using the above procedure.

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[5] Actual children's performance comparisons by subgrouping for the 21 family structural variables are not tabulated in this report. If the reader wishes to obtain such data, please contact the principal investigator.

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Table 71

Comparisons of Absolute Levels and Significance Tests of Mothers' Estimations vs. Children's Performance by Family Structural Variables

Variable	n	GCI		V		PP		Q		M	
		ME[a]	CP[b]	ME	CP	ME	CP	ME	CP	ME	CP
Older Mothers	93						x				
Younger Mothers	154	x[c]	x	x[e]	x[d]	x		x	x	x[d]	x[e]
Husband Present	202								x		
Husband Absent	46	x	x	x	x	x	x	x		x	x
Ex. Family Present	57		x		x						x
Ex. Family Absent	194	x		x		x	x	x	x	x	
Only One Child	38	x	x	x	x		x	x	x	x	x
Two or More Children	221					x					
Mothers of Boys	107										
Mothers of Girls	148	x	x[d]	x	x[d]	x	x	x	x[d]	x	x[d]
Span.-Spkg. Mothers	168										
Eng.-Spkg. Mothers	74	x[f]	x[f]	x[f]	x[f]	x[f]	x[f]	x[f]	x[f]	x[f]	x[f]
Span.-Spkg. Children	140										
Eng.-Spkg. Children	103	x[e]	x[f]	x[f]	x[f]	x	x[d]	x[e]	x[f]	x[e]	x[f]
Working Mothers	121		x	x		x			x	x	x
Nonworking Mothers	130	x			x		x	x			
Mothers Born in Mexico	151										
Mothers Born in USA	103	x[d]	x[f]	x[e]	x[f]	x	x[d]	x[e]	x[f]	x[d]	x[f]

Table 71 (cont.)

Variable	n	GCI		V		PP		Q		M	
		ME[a]	CP[b]	ME	CP	ME	CP	ME	CP	ME	CP
Fathers Born in Mexico	153										
Fathers Born in USA	67	x^e	x^d	x^d	x^d	x	x	x^d	x	x^d	x^e
Mothers of Long Res.	80	x	x	x	x	x	x	x	x	x	x
Mothers of Short Res.	71										
Fathers of Long Res.	84	x	x^d	x	x	x	x	x^d	x	x^d	x
Fathers of Short Res.	62										
Mothers Ed. in Mexico	110										
Mothers Ed. in USA	138	x^f	x^f	x^f	x^f	x^f	x^d	x^e	x^e	x^f	x^f
Fathers Ed. in Mexico	133										
Fathers Ed. in USA	67	x^d	x^e	x^e	x^e	x	x	x	x^d	x	x^f
Families Rent Home	191	x		x		x		x		x	
Families Buy Home	60		x		x		x		x		x
Mothers of Hi Occ.	58	x	x	x	x	x	x	x	x	x^e	x^d
Mothers of Lo Occ.	197										
Fathers of Hi Occ.	76	x^f	x^f	x^f	x^e	x^e	x^d	x	x^e	x^f	x^e
Fathers of Lo Occ.	132										
Mothers of Hi Ed.	124	x^f	x^f	x^f	x^f	x	x^f	x^f	x^f	x^f	x^f
Mothers of Lo Ed.	132										
Fathers of Hi Ed.	73	x^f	x^f	x^f	x^f	x^d	x^e	x^e	x^e	x^f	x^f
Fathers of Lo Ed.	133										

Table 71

Variable	n	GCI		V		PP		Q		M	
		ME[a]	CP[b]	ME	CP	ME	CP	ME	CP	ME	CP
Mothers of Hi Class	34	x[d]	x[d]	x[d]	x[d]	x	x	x[d]	x[d]	x[d]	x[f]
Mothers of Lo Class	220										
Fathers of Hi Class	21	x[e]	x[f]	x[f]	x[f]	x	x[e]	x[e]	x[e]	x[f]	x[e]
Fathers of Lo Class	186										

[a] ME indicates absolute levels of mothers' estimations.

[b] CP indicates absolute levels of children's performances.

[c] The positioning of the "x" indicates which variable had the highest estimation/performance. Unless indicated by d, e, or f, all levels are nonsignificant.

[d] $p < .05$.

[e] $p < .01$.

[f] $p < .001$.

The results presented in Table 71 show that except for the variables of extended family present vs. absent, working vs. nonworking mothers, and families renting vs. buying homes, mothers were relatively accurate in their levels of estimations for the family variables across the five MSCA scales. That is, the accuracy of the direction of the mothers' estimations was largely confirmed by the actual performance of the children. Statistically significant differences in higher estimations and higher children's performances were frequently found across MSCA scales for the following family structural variables: English-speaking mothers, mothers of English-speaking children, USA-born mothers, mothers who had a USA-born spouse, mothers schooled in the USA, mothers who had a spouse schooled in the USA, mothers who had a spouse of high occupational status, mothers of high schooling attainment, mothers who had a spouse of high schooling attainment, mothers of high social class and mothers who had a spouse of high social class.

Question Number 4: Home Environmental Variable

The fourth research question asked: How is the home environmental variable related to mothers' estimations of their children's actual cognitive performance? The home environmental variable is defined as the mean score obtained by a mother on the HELPS-R [the sum score of the 34 scalar items divided by the number of items (n=34)]. As described previously (see pages 61-65), the HELPS-R is an instrument that measures home environmental characteristics that are related to the intellectual and academic performance of children. Table 72 contains data that provides further evidence for the predictive validity of the HELPS (and HELPS-R).

Table 72

Correlations Between HELPS-R Mean Scores and Children's Performance on the MSCA Scale Indexes

Scale Index	n[a]	r
GCI	134	.39*
Verbal	134	.36*
Perceptual-Performance	134	.28*
Quantitative	134	.38*
Memory	134	.34*

[a] The sample size for all HELPS-R analyses was 134 subjects. Because the data analyses were done only on the "father present" subsample (n=202) and because the formula for computation of the mean HELPS-R required that a score be available on each of the 34 items, the final sample size was further reduced to 134 subjects who had valid data.

*$p < .001$.

The results in Table 72 show that the HELPS-R mean score is positively correlated with the children's MSCA performance. This means that as the intellectual environment of the home increases, so does the intellectual performance of the children. The observed rs are of moderate magnitude. The lowest r is between HELPS-R and the Perceptual-Performance Scale Index (r=.28), and the highest r is between HELPS-R and the GCI (r=.39); all rs are significantly different from zero ($p < .001$).

Table 73 presents data that addresses the major concern of research question number four, which sought to investigate the relation between the intellectual climate of the home and the level of the mothers' estimations.

Table 73

Correlations Between HELPS-R Mean Scores and Mothers' MSCA Scale Index Estimations of Children's Performance

Scale Index	n	r
GCI	134	.45*
Verbal	134	.45*
Perceptual-Performance	134	.33*
Quantitative	134	.30*
Memory	133	.43*

*$p < .001$.

The results of the correlational analyses between HELPS-R mean scores and the MSCA maternal estimations, show positive and moderately high correlations across the five MSCA scales. These findings indicate that as the intellectual climate of the home increases, so do mothers' estimations of their children's intellectual performance.

The lowest relation was found between HELPS-R and the Quantitative Scale Index (n=.30), and the highest relation was between HELPS-R and Verbal Index and GCI (both _r_s were .45). All correlations in Table 73 were significantly different from zero ($p < .001$).

A follow-up to the data analyses shown in Table 73, which revealed a positive relation between the HELPS-R and estimations for the aggregate sample, is presented in Table 74. The results contained in Table 74 are correlations between HELPS-R and estimations across the family structural variables.

Table 74

Comparisons of Correlations Between HELPS-R Mean Scores and Mothers' Estimations by Family Structural Variables

Variable	_n_	GCI _r_[a]	V _r_	PP _r_	Q _r_	M _r_
Older Mothers	48	.56	.62	.28*	.37**	.50
Younger Mothers	83	.40	.36	.35	.28**	.38
Husband Present	------- data not analysed ---------					
Husband Absent	------- data not analysed ---------					

Table 74 (cont.)

Variable	n	GCI r[a]	V r	PP r	Q r	M r
Ex. Fam. Present	25	.33[d]	.27[d]	.20[d]	.50**	.16[d]
Ex. Fam. Absent	109	.48	.48	.36	.26**	.47
Only One Child	20	.56**	.48**	.41**	-.09[d]	.45**
Two + Children	114	.45	.44	.33	.34	.43
Mothers of Boys	60	.45	.45	.26*	.36**	.42
Mothers of Girls	73	.48	.48	.40	.29	.46
Span.-Spkg. Moms	93	.41	.42	.32	.33	.44
Eng.-Spkg. Moms	35	.38*	.34*	.34*	.09[d]	.22[d]
Span.-Spkg. Child.	78	.35	.36	.32**	.22*	.39
Eng.-Spkg. Child.	48	.43	.39**	.28*	.23[d]	.30*
Work. Mothers	65	.41	.40	.28*	.39	.48
Nonwork. Mothers	68	.48	.49	.38	.24*	.39
M. born in Mexico	87	.42	.42	.33	.34	.44
M. born in USA	46	.47	.45	.38**	.23[d]	.38**
F. born in Mexico	90	.40	.38	.33	.32	.40
F. born in USA	41	.50	.54	.33*	.25[d]	.48
M. of Long Res.	40	.43**	.42**	.26[d]	.32*	.48
M. of Short Res.	46	.39*	.41**	.35**	.33*	.39**
F. of Long Res.	40	.41**	.47	.28*	.24[d]	.33*
F. of Short Res	46	.35**	.26*	.33*	.36**	.34*

Table 74 (cont.)

Variable	n	GCI r[a]	V r	PP r	Q r	M r
M. Ed. in Mexico	65	.40	.40	.36**	.32**	.41
M. Ed. in USA	66	.43	.40	.27*	.26*	.37
F. Ed. in Mexico	88	.41	.38	.32	.35	.40
F. Ed. in USA	44	.48	.50	.35*	.21[d]	.42**
Rent Home	103	.43	.42	.31	.31	.41
Buy Home	30	.46**	.48**	.37*	.27[d]	.43**
M. Hi Occ.	27	.02[d]	.00[d]	-.10[d]	.09[d]	.08[d]
M. Lo Occ.	107	.51	.52	.40	.33	.47
F. Hi Occ.	57	.43	.38**	.25*	.30*	.41
F. Lo Occ.	77	.43	.48	.34	.30**	.40
M. Hi Ed.	62	.42	.34**	.39	.21[d]	.28
M. Lo Ed.	72	.33**	.38	.24*	.25*	.38
F. Hi Ed.	48	.41**	.40**	.35**	.14[d]	.30*
F. Lo Ed.	85	.36	.35	.25*	.30**	.39
M. Hi Class	13	.46[d]	.41[d]	.12[d]	.58*	.58*
M. Lo Class	121	.46	.46	.34	.29	.43
F. Hi Class	14	.39	.35	.37	.33	.26
F. Lo Class	119	.42	.43	.30	.25**	.40

---

[a] All correlation coefficients are beyond the .001 level unless otherwise noted.

*$p < .05$.

*$p < .01$.

[d] Denotes a nonsignificant r.

The findings shown in Table 74 should be interpreted with caution because of the small and fluctuating sample sizes and of course because of the colinearity among the variables. The variables that contain comparable subsample sizes are probably the most meaningful for interpretation. Comparing those family variables with similar sample sizes and using the GCI as the comparative index, it can be stated that the relation between HELPS-R and maternal estimations generally appears to be stronger for:

- mothers of girls
- mothers of English-speaking children
- nonworking mothers
- mothers of long USA residency (Mexico-born mothers)
- mothers who had spouses of long USA residency
- mothers schooled in the USA
- mothers of high schooling attainment

Tables 75 and 76 present data that attempt to address the question of accuracy in the case of the relation between HELPS-R and maternal estimations.

Table 75

Correlations Between HELPS-R Mean Scores and Congruency Scores

Scale Index	n	r
GCI	134	.21**
Verbal	134	.18*
Perceptual-Performance	134	.10(NS)
Quantitative	134	.05(NS)
Memory	133	.18*

*$p < .05$

**$p < .01$.

The data shown in Table 75 are correlations between HELPS-R mean scores and congruency scores. A positive relation indicates that as the intellectual climate of the home increases, so do congruency scores. In other words, a positive r indicates that as the intellectual home environment increases, so does the inaccuracy of the maternal estimations. The observed rs in Table 75 reveal that all the relations are of a positive direction but of a low magnitude. Two rs (Perceptual-Performance and Quantitative Scale Indexes) are near zero and are nonsignificant. The highest r is between HELPS-R and GCI congruency scores ($r=.21$; $p < .01$).

Table 76, a follow-up of the aggregate data analyses presented in Table 75, shows the correlations between HELPS-R mean scores and congruency scores across the family structural variables.

Table 76

Comparisons of Correlations Between HELPS-R Mean Scores and Congruency Scores by Family Structural Variables

Variable	n	GCI r[a]	V r	PP r	Q r	M r
Older Mother	48	.27*	.30*	.05	.06	.17
Younger Mother	83	.17	.10	.10	.05	.18*
Husband Present	------ data not analysed -----------					
Husband Absent	------ data not analysed -----------					
Ex. Fam. Present	25	.09	-.09	-.09	.40*	-.22
Ex. Fam. Absent	109	.24**	.24**	.13	-.02	.25**
Only One Child	20	.24	.38	.13	-.26	.27
Two + Children	114	.21*	.15	.10	.08	.18*
Mothers of Boys	60	.24*	.27*	.04	.14	.21
Mothers of Girls	73	.24*	.15	.18	.04	.21*
Span.=Spkg. Moms	93	.19*	.15	.13	.10	.21*
Eng.-Spkg. Moms	35	.27	.22	.19	-.06	.14

Table 76 (cont.)

Variable	n	GCI	V	PP	Q	M
		r^a	r	r	r	r
Span.-Spkg. Child	78	.18	.16	.20*	-.04	.21*
Eng.-Spkg. Child	48	.15	.14	-.06	-.02	.08
Work. Mothers	65	.19	.14	.06	.16	.24*
Nonwork. Mothers	68	.22*	.20	.13	-.02	.15
M. born in Mexico	87	.22*	.18*	.16	.12	.23*
M. born in USA	46	.18	.15	.04	-.03	.13
F. born in Mexico	90	.22*	.17	.16	.11	.19*
F. born in USA	41	.20	.25	.02	-.05	.29*
M. of Long Res.	40	.15	.21	.02	-.08	.24
M. of Short Res.	46	.28*	.20	.24	.21	.24
F. of Long Res.	40	.25	.26	.16	.09	.06
F. of Short Res.	46	.13	.04	.07	.13	.17
M. Ed. in Mexico	65	.16	.12	.11	.07	.18
M. Ed. in USA	66	.20	.17	.07	.04	.19
F. Ed. in Mexico	88	.25**	.19*	.18	.16	.21*
F. Ed. in USA	44	.12	.18	.00	-.12	.20
Rent Home	103	.20*	.14	.10	.04	.18*
Buy Home	30	.21	.27	.08	.11	.20
M. Hi Occ.	27	-.26	-.28	-.21	-.12	-.12
M. Lo Occ.	107	.28**	.26**	.14	.06	.23**

Table 76 (cont.)

Variable	n	GCI r[a]	V r	PP r	Q r	M r
F. Hi Occ.	57	.17	.07	.03	.11	.17
F. Lo Occ.	77	.20*	.24*	.11	-.01	.16
M. Hi Ed.	62	.21*	.16	.13	.01	.13
M. Lo Ed.	72	.11	.08	.11	.00	.16
F. Hi Ed.	48	.07	.14	-.02	-.14	.12
F. Lo Ed.	85	.22*	.15	.17	.11	.20*
M. Lo Class	121	.22**	.20*	.09	.04	.20*
M. Hi Class	13	.02	-.06	.07	.07	.02
F. Lo Class	119	.23**	.21*	.12	.02	.20*
F. Hi Class	14	.04	.07	-.05	.09	-.08

[a] All correlation coefficients are nonsignificant unless otherwise noted.

* $p < .05$.

** $p < .01$.

Using the same procedure as was done for the Table 74 results (comparing those family variables with similar sample sizes and using the GCI as the comparative index), the relation between increased HELPS-R scores and increased accuracy generally appears to be stronger for:

- mothers of English-speaking children
- working mothers
- mothers of long USA residency (Mexico-born mothers)
- mothers who had spouses of short USA residency
- mothers schooled in Mexico
- mothers of low schooling attainment

Subsidiary Analysis: Congruency and Children's Performance

The final concern presented in the results section deals with the hypothesis offered by Hunt and Paraskevopoulos (1980), who argued that there would be a negative relation between incorrect maternal estimates (increased maternal inaccuracy) and a decrease in their children's intellectual performance (decreased child performance). As summarized previously (see pages 40-43) the Hunt and Paraskevopoulos hypothesis was confirmed in their study. A highly significant r of -.80 was found between maternal accuracy and children's performance.

Table 77 presents data that offers some support for the Hunt and Paraskevopoulos hypothesis and findings.

Table 77

Correlations Between Congruency Scores and Children's Performance on the MSCA Scale Indexes

Scale Index	$\underline{n}^a$	$\underline{r}$
GCI	202	-.17
Verbal	202	-.31
Perceptual-Performance	202	-.37
Quantitative	202	-.35
Memory	201	-.35

[a] Sample size is father present subsample.

$^*\underline{p} < .001$.

The method used for the analyses shown in Table 77 was to correlate congruency scores with children's MSCA scales; negative and moderately high correlations were found between congruency scores and children's actual MSCA performance (the lowest r was -.17 which was found between GCI and congruency scores and the highest r was -.37 which was observed between Perceptual-Performance and congruency scores). In a general sense, the results indicate that as congruency scores increased (increased inaccuracy), childrens MSCA performance decreased. Although the observed *r*s are not the same magnitude as those found in the Hunt and Paraskevopoulous (1980) investigation, the findings do lend support to the hypothesis that mothers who tend to be less accurate in their estimations have children who tend to perform lower on intelligence measures.

SUMMARY OF FINDINGS, DISCUSSION, AND CONCLUSIONS

In this final section, the findings are summarized and discussed and conclusions drawn. The format consists of reviewing and discussing the findings for each of the four research questions plus the subsidiary analysis. Major conclusions are made at the end of the section.

Question Number 1: General MSCA Comparison

The first research question asked: How do the perceived general cognitive estimations given by the mothers compare with the actual general cognitive performances of their children? The results for this question showed that the GCI estimations given by the mothers ($\bar{x}$=112.38) was significantly higher than the children's actual score ($\bar{x}$=95.44).

This was a very important finding in two ways. First, the finding confirmed the common phenomenon of parental overestimation that is reported in the literature. Since the present investigation is the first parental estimations study of an ethnic minority group, the finding that Mexican American mothers also overestimate adds new knowledge to our understanding of between-group similarities in parental estimations research. Given that the subjects in the present study are considerably different than subjects in the existing research (low socioeconomic status, linguistically and culturally different), it may be that the underlying motive for the overestimation phenomenon cuts across different groups.

A hypothesis that the investigators of the present investigation are formulating at this time to help explain maternal overestimation is referred to as the "macro hypothesis." The MSCA and other standardized intelligence tests, such as the Stanford-Binet and the WISC, consist of test items that are rather specific. Kaufman (1973) analysed the MSCA in terms of Guilford's (1967) well known structure of intellect model. Kaufman's analysis showed a great deal of consonance between the MSCA and Guilford's systems. For example, in the Block Building subtest, three abilities seem to be involved: cognition of a figural system, evaluation of figural systems, and convergent-production of figural relations. It can be argued that Kaufman's analyses of the MSCA using the Guilford model requires of the child some rather specific functioning of the intellectual processes, the type of information to be processed, and the way the information to be processed is organized. It can be further argued that the intellectual demands of the MSCA are so specific that they can be conceptualized as micro level demands. However, when the MSCA was "administered" item-by-item to the mother, were the questions conceived by the mother at the micro level? Probably not. It is more likely that the mother, when estimating her child's performance on each item, was using a generic or macro frame of reference to evaluate her child. Perhaps the mother was judging her child's performance in a global manner by relying on two points of reference: (1) her perceptions of the child's overall intellectual ability, and (2) her perceptions of the child's abilities in a limited and specific (yet macro) sense. For example, in the Block Building subtest, perhaps the mother was not responding in the minute, micro level cognitive demands of each item, but rather the mother was relying on a macro level assessment of the overall brightness of her child plus her assessment of how her child functions in tasks related to "block building." That is, the mother's macro level knowledge of her child's experiences and skills in block building tasks provided her with positive transfer in making her estimation. There is some evidence for this notion of an experiential base serving as a facilitator (or non facilitator in the case of an underestimation). It was found that the only MSCA subtest in which mothers significantly underestimated their children's performance was in the Right-Left Orientation subtest. It seems logical that a mother's estimation of her child's knowledge of "right-left" would be one of the lowest of the MSCA subtests. To a large degree, "right-left" knowledge is developmentally influenced and it is a rather difficult bit of knowledge for preschoolers to master. Also, along with the mother's perception of the difficulty of her child mastering right-left understanding, she probably engages very little in right-left teaching situations with the child nor does she see him/her play or engage in right-left skills development. In other words, it is not that the child does not have some knowledge of right-left orientation (as evidenced by the results of this subtest), but mothers may not be attuned to it for the reasons mentioned above.

Returning to the overestimation phenomenon, the "macro hypothesis" might be the most logical explanation to help explain maternal overestimation. Its credibility as a hypothesis is increased by the major assumption that mothers, because of the quality and quantity of contact time they have with their children, are extremely knowledgeable about their children's intellectual performance and development.

A potentially profound issue raised by the macro hypothesis is that the relation between accuracy and estimation might be more apparent than real. That is, perhaps mothers' estimations are in actuality more precise indicators of their children's intellectual functioning than the traditional diagnostic procedure. If this is so, then the concept of "maternal overestimation" may be a misconception, meaning that traditional assessment instruments (e.g., IQ tests) are so narrow in what they measure that "diagnostician underestimation" may be a more meaningful concept. This notion of "diagnostician underestimation," if valid, could lend considerable support to the contention that existing assessment instruments and procedures (e.g., grade point average, IQ, Scholastic Achievement Tests, Graduate Record Examination, Law School Aptitude Test, etc.) are relatively poor predictors for low SES ethnic minority children, youth, and adults.

The second important interpretation of the maternal overestimation finding deals with a point that should be of interest to educators--Mexican American mothers have very high assessments of the intellectual functioning levels of their young children. In fact, the mean maternal GCI estimation of 112.38 was slightly in the "Bright Normal" range (GCIs of 110-119). These high perceptions held by the mothers are important to note because it is a message to educators that Mexican American mothers think their children are quite bright. Several items on the HELPS-R provide us with further evidence that the mothers not only have high assessments of their preschoolers' intelligence but also that the mothers believe the children will do reasonably well in later academic work and that higher education is important for the children. The HELPS-R items that lend some support to this contention are as follows:

- HELPS-R Item No. 1 ("I know it will be some time before (CHILD) enrolls in the school system, but I'd like to get some ideas about how you generally expect he/she will do in school. What kind of letter grades do you expect (CHILD) to get in school?")

The results were:

- 9.6% expected mostly A's
- 23.8% expected mostly B's and A's
- 46.0% expected mostly B's and C's
- 16.5% expected mostly C's
- 3.8% expected less than C's

- HELPS-R Item No. 29 ("In your opinion, how important do you think a college education will be for (CHILD'S) future?")
- 65.9% said very important
- 28.7% said important
- 3.4% said unlabeled (middle scalar point)
- 1.5% said not very important
- 0.4% said unimportant
- HELPS-R Item No. 37 ("How much education do you wish (CHILD) to complete?")
- 21.1% said graduate or professional school
- 64.4% said four years of college
- 2.3% said some college
- 11.1% said high school
- 0.4% said eighth grade

In conclusion, the Mexican American mothers in the present investigation can generally be characterized as holding very high estimations of their children's intellectual functioning, as having relatively high to average expectations for academic achievement in later years, and as having high values and high aspirations of higher education for their children. This characterization should be of interest to those educators who might hold views that Mexican American parents perceive their children not to be "academically inclined" or who believe these parents do not value education.

In the case of the accuracy issue for research question number one, it was found that the predictive ability accuracy index revealed an r of .55 between maternal GCI estimations and children's GCI performance. It was concluded that the mothers were fairly accurate in the context of the predictive ability accuracy index. It is important to note that the observed r of .55 is of the same magnitude found in most other studies (correlations clustered between .5 and .6).

Concerning the use of the other accuracy indexes, it was found that by using the absolute accuracy and statistical chance accuracy indexes, mothers were very inaccurate. However, given the macro hypothesis advanced earlier to explain overestimation (which is obviously related to the issue of accuracy), any discussion of accuracy using the above two indexes needs to be expanded to include the whole issue of competing hypotheses to explain the phenomenon of "overestimation." The issue of accuracy appears to be inextricably related to future theory building and hypothesis testing in estimations research. Although it would be premature to say that parents are not inaccurate (in the context of the macro hypothesis), it would be hasty if researchers did not at least acknowledge and consider alternative hypotheses to explain the phenomenon of parental overestimation and its relation to the accuracy question.

Question Number 2: Between MSCA Comparisons

The second research question asked: How do the estimations given by the mothers vary between and within the cognitive areas of the MSCA? The overestimation pattern was also found for the Verbal, Perceptual-Performance, Quantitative, and Memory Scale Indexes. Since the standardization range for each of these four scales is the same (0-78; $\bar{x}$=50; sd=10), comparisons can be made with some ease. The mean maternal estimation was highest for the Perceptual-Performance Scale Index ($\bar{x}$=62.45). For the other three scales, the mean maternal estimations were very similar (Quantitative, $\bar{x}$=54.19; Verbal, $\bar{x}$=53.28; Memory, $\bar{x}$=52.46).

One explanation that we offer for the higher mean estimation on the Perceptual-Performance Scale Index is related to the macro hypothesis advanced earlier. It could be that the mother frequently sees her child engage in the kinds of perceptual activities (as measured by the MSCA) during the children's everyday behavioral repertoire. Since these kinds of skills and activities (nonverbal, visual-motor coordination, fine motor skills, manipulation of concrete objects) measured by the Perceptual-Performance

Scale are likely to be more commonly observed by the mother, she might think that they are easier for her child to accomplish compared to the other types of activities on the MSCA (e.g., verbal). Hence, the mother gives higher assessments. There is some evidence for this hypothesis when the actual performance levels of the children are compared. The children performed the highest on the Perceptual-Performance Scale Index ($\bar{x}$=50.21) compared to the 45-46 range on the other scales.

Concerning the question of accuracy, the mothers were inaccurate if one uses the absolute and statistical chance accuracy indexes. Using these indexes, mothers were the most inaccurate for the Perceptual-Performance Index, and the degree of inaccuracy was about the same for the other three scales. As was the case for the GCI comparison, mothers can be judged to be fairly accurate if the predictive ability accuracy index is used. Highest accuracy was found for the Perceptual-Performance Index (r=.48), and the accuracy levels for the three other scales were very similar (range of rs from .41 to .46).

Question Number 2: Within MSCA Comparisons

The second part of research question number two was concerned with examining within-area comparisons (subtests).[1] Within the Verbal area, analyses revealed that on five of the six subtests the mothers overestimated and on one subtest underestimated (Verbal Memory I). Within the Perceptual-Performance area, maternal overestimations were found on six of seven subtests and underestimation on one (Right-Left Orientation). For the Quantitative area, overestimations were observed on four of four subtests.

Using absolute mean differences as ways of comparing estimations within the Verbal Scale, it appeared that mothers believed their children were functioning the highest on the Verbal Fluency subtest. According to Kaufman and Kaufman (1977), this subtest (a timed test) assesses verbal concept formation, logical classification, creativity (divergent thinking), and verbal expression. The lowest estimation (a very slight underestimation) was given on the Pictorial Memory subtest. This subtest measures short-term memory (auditory and visual), early language development, and attention (Kaufman & Kaufman, 1977).

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[1] Any discussion and conclusions drawn from the within-area comparisons should be interpreted with caution because the standardization ranges vary from subtest to subtest and the subtest scores are raw scores (not scaled by age).

For the Perceptual-Performance area, the highest estimation (compared to the children's performance) was on the Draw-A-Design subtest. This was an interesting finding because the tasks in this subtest (which assess visual perception, visual-motor coordination, and spatial relations; Kaufman & Kaufman, 1977) are seemingly easy but can be rather difficult for preschool age children. Again, drawing from the macro hypothesis, it could be that the mothers are more attuned to the play or preschool activities of their children that involve the drawings of lines, circles, and various shapes. The interpretation for the finding of the lower estimations on the Right-Left Orientation subtest was previously discussed.

For the Quantitative area, the highest level of estimation (compared to the children's mean) was seen in the Numerical Memory II subtest. This subtest, "Backward Series," assesses short-term memory (auditory), attention, and reversibility (Kaufman & Kaufman, 1977). It appears that a basal effect was operative on the part of the children's performance (mean score of .41, maximum score of 5). The difficulty level of this subtest may have been related to the large mean difference between the children's mean and the mothers' mean ($\bar{x}$=2.67). The lowest mean difference was on the Numerical Memory I subtest

("Forward Series"). The mean difference of .38 points was a slight overestimation (mothers' $\bar{x}$=5.40; children's $\bar{x}$=5.02).

Question Number 3: Family Structural Variables

This research question asked: How are the family structural variables under study related to mothers' estimations of their children's actual performance? As described in the results section, comparisons for 21 family structural variables were analysed. Before the discussion begins, it is necessary to point out that the study of environmental or family variables are plagued with colinearity (Rankin, 1981). That is, certain variables tend to co-vary and thus are not statistically independent (e.g., amount of schooling, occupational status). It is possible to disentangle the colinearity problem by using certain statistical procedures (e.g., multiple regression). However, the present investigation was not designed to tackle this problem. Given that this was the first study of parental estimations in which Mexican American families were used, the major purpose was to gather base line data--hence, the descriptive nature of the data analyses. Likewise, the ensuing discussion should be looked at as very descriptive. The *t* tests and correlational analyses were simply used to identify trends and patterns. Therefore, the following discussions and conclusions of the family structural variables and the home environmental variables and how they are related to maternal estimations should be viewed as tentative.

Summarizing the results of the comparisons for the 21 family structural variables, it was found that certain patterns of maternal estimations cut across the five MSCA scales. In a general sense, a profile of mothers who estimated their children's performance to be higher can be characterized as being/having:

- younger
- a husband absent
- an extended family absent
- only one child
- mothers of girls
- English-speaking
- English-speaking children
- nonworking
- born in the USA
- having a spouse born in the USA
- having a long USA residency if born in Mexico
- have a spouse of long USA residency if he was born in Mexico

- schooled in the USA
- having a spouse schooled in the USA
- renting a home
- of higher occupational status
- spouses of higher occupational status
- higher schooling attainment
- spouses of higher schooling attainment
- of higher social class
- spouses of higher social class

Compressing the above profile, mothers who tended to give higher estimations were younger, had smaller families, had girls not boys in the study, were English-speaking and had English-speaking children, were nonworking, were born and schooled in the USA and with higher schooling attainment (likewise for spouses), and had higher socioeconomic status.

One hypothesis that we advance for this "type" of mother giving higher estimations of their children's MSCA performance is linked to a careful analysis of the actual performance of the children in the study. In a subanalysis of the data, Valencia, Henderson, and Rankin (1981) analysed the GCI performance of 190 of the 261 children.[2] The relation between 13 independent variables (age of child, sex of child, number of children in the family, birth order of children, language of test administration, husband present, schooling attainment of mother, country of mother's schooling, schooling attainment of father, country of father's schooling, language spoken in home by parents, social position score, and social class) to GCI performance was examined. These 13 variables were reduced using a factor analysis; four independent variables emerged. Using an MAXR stepwise multiple regression procedure (it generates a new model for each independent variable entered), it was found that the single best predictor of GCI performance was a "language/schooling" factor (LS). The LS factor consisted of the child's and parent's language, country of schooling, and schooling attainment of parents. The best two-factor model added socioeconomic status (SES) to the GCI prediction (SES, which contains schooling level information was factorially distinct). The best three-factor model added family constellation (FS; contained birth order and family size). Finally, the best four-factor model was a residual (mostly explained by sex of child). The amounts of variance in GCI uniquely explained by the best one-two-three-four variable models, respectively, were 6.8% for LS, 3.6% for SES, 2.8% for FS, and .02% for the residual.[3]

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[2] The design called for only monolingual English-speaking and Spanish-speaking children plus complete family data (e.g., schooling attainment). After eliminating bilingual children and cases of missing data, the sample size numbered 190.

Valencia, et al. (1981) concluded that:

> . . . the most competent children come from homes in which the dominant language was English, who were tested in English rather than Spanish, whose parents were educated in the United States rather than Mexico, and whose parents had attained the highest levels of formal education among those represented in the sample . . . It appears that parents who have been educated in the United States and who have relatively higher levels of education may be transmitting to their children more of the culture of the school than their Mexico-educated counterparts. The kinds of knowledge and skills valued in school culture are reflected in intellectual measures such as the MSCA . . . The present research suggests that the results of education are passed on by parents to their children. We interpret the present results to suggest that skills and concepts that are implicit in school culture, and in the content of mental tests, may be passed on to children in proportion to the parents' own exposure to the culture of the school. (pp. 529-531) (emphasis added).

The findings and conclusions of the Valencia, et al. (1981) investigation have some bearing on the family structural findings of the present study. It is possible that one way in which the "skills and concepts" of the school culture are "passed on to children" may be in the forms of complex interactions of parent's perceptions of their children's levels of functioning along with the parents own "exposure" to and knowledge of the school culture. As was found in the Valencia et al. study, parents who had a wider and deeper experiential background of the USA school culture also had children who functioned at higher levels on the MSCA. It is likely that these kinds of parents, compared to others, in the present investigation relied more on this experiential base when responding to the MSCA protocol. That is, perhaps these mothers were better able to "match" the demands of the MSCA and the perceptions they held of their children's capabilities. Theoretically, this match might involve several aspects. First, the match could conceivably mean higher-estimating mothers know more about the demands of the MSCA in the areas of "test-taking skills" and "test content." This knowledge is probably translated into a sense of maternal confidence and the belief that their children would perform quite well. Evidence for this not only comes from the Valencia et al. study, but also the present investigation (see results presented in Table 71). English-speaking children, children who had parents schooled in the USA and with higher schooling levels, and who came from families of higher social class performed significantly higher on the MSCA compared to their Spanish-speaking, etc., peers. A second way in which the match might be enhanced

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[3] These percentages are unique contributions. It should be kept in mind that the MAXR procedure generates a new model for each variable entered. Each successive model is considered independent of the previous ones.

(thus leading to perceptions of higher functioning levels) is related to the macro hypothesis advanced earlier. Another aspect of the macro hypothesis is concerned with the quality of the time of parent-child interactions, achievement press, and so forth. It could be argued that a parent not only had knowledge of the behavioral repertoire of the child (e.g., skills, interests, functioning levels), but in addition, the parents shaped the repertoire (hence her own knowledge) of the child. In effect, parents who have quantitatively and qualitatively higher interactions with their children will likely produce children who can better meet the demands of the skills and concepts assessed on tests like the MSCA. So, it would not be surprising to see a positive relation between estimations and the intellectual climate of the home. Since very stimulating homes generally produce very competent children, it makes sense for parents from highly stimulating homes to assess their children at high levels. The observed r of .45 between HELPS-R and maternal estimations for GCI performance provides some evidence for this contention (see Table 73; these results will be further discussed under the discussion for research question number four).

Before moving on to research question number four, a few remarks about accuracy and the family structural variables are necessary. As described previously, using the absolute accuracy index for comparisons of family structural variables, the mothers who were more accurate were opposite of the type described as being higher estimators (e.g., Spanish-speaking mothers were more accurate than English-speaking mothers). Perhaps a more meaningful way to analyse accuracy for family variable comparisons is to use the statistical chance accuracy index. As stated in the results section, only 2 of the 105 mean differences shown in Table 69 were statistically different. It can be concluded that when mean congruency scores are subjected to significance tests, there are no differences in accuracy among the 21 family structural variables. Finally, it was concluded that regardless of subgroupings on the family structural variables, estimation levels were positively related to congruency scores. This means that as the maternal estimations increased, so did inaccuracy.

Question Number 4: Home Environmental Variable

The fourth research question asked: How is the home environmental variable related to mothers' estimations? The major finding was that the HELPS-R mean scores and the MSCA maternal estimations were positively correlated. Correlations ranged from .30 (Quantitative Scale Index) to .45 (GCI). The significance of this positive relation meant that as maternal estimations increased, so did the intellectual climate of the home. The hypothesis advanced for this finding was that since there is a tendency for intellectually stimulating homes to produce more competent children, it makes sense that mothers who are identified as having homes of higher intellectual climates would tend to evaluate their children higher on a testing paradigm such as used in the present study. The theoretical grounding of this hypothesis was discussed under the findings for research question number three (pp. 184-186). Some evidence for the support of this hypothesis is available when the HELPS-R/estimations relation is analysed by family structural variables. As noted in the results section (p. 160), the relation between HELPS-R and GCI maternal estimations appeared to be stronger for mothers who had girls, had English-speaking children, did not work outside the home, had long USA residency if Mexico-born (also true of spouses), were schooled in the USA, and had higher schooling attainment. As discussed previously, this type of mother also had higher functioning children. Therefore, the theoretical discussion that appeared in the section dealing with the third research question may be appropriate for the present context.

Concerning accuracy, low and positive *r*s were found between congruency scores and HELPS-R scores; three of the correlations were significant (GCI, Verbal, Memory) and two were nonsignificant (Perceptual-Performance and Quantitative). The significance of these correlations indicated that as the intellectual climate of the home increased, so did inaccuracy. However, the general patterns of the correlations were low enough that it can be argued that accuracy does not appear to be very strongly related to the intellectual climate of the home.

Subsidiary Analysis: Congruency and Children's Performance

One of the most interesting findings of the study was the analysis that correlated congruency scores and the children's MSCA performance. Negative correlations of low to moderate magnitude were found. The significance of the results was that as maternal estimations increased, so does inaccuracy. Similar results, but of greater magnitude, were also found in the study by Hunt and Paraskevopoulos (1980). Although the instruments, sample, and paradigm of the present study were different from the study of Hunt and Paraskevopoulos, our findings have provided some support for their contention that mothers who tend to have high ambitions for their children to excel may produce demands with which their children cannot meet. Consequently, such unrealistic perceptions and goals may lead to a thwarting of the child's development. To a small degree, it is possible that these adverse effects may have been operative for the aggregate sample in the present study.

Major Conclusions

A number of major conclusions, some tentative and some firm, can be drawn from the present investigation. They are as follows:

1. Mexican American mothers tended to overestimate their children's intellectual performance. Except for a few exceptions, the overestimations were found for general intellectual functioning and between and within the MSCA scales. This pattern of maternal overestimation is consistent with the findings in the existing parental estimations research.
2. The accuracy of the mothers' estimations varied according to the accuracy index used. Using the absolute accuracy and statistical chance accuracy indexes, mothers were considered to be fairly inaccurate (for aggregate data analyses). The predictive validity accuracy index showed mothers to be fairly accurate (for aggregate data analyses). For the analyses of estimations by family structural variables, the statistical chance accuracy index generally revealed no significant differences in accuracy. Finally, although there was a positive relation between congruency scores and HELPS-R, the relation was weak. In all, it can be concluded that the mothers were relatively accurate in their estimations as compared to accuracy findings in the existing research.

3. Mothers who tended to give higher estimations were mothers who were characterized as having more exposure to the culture of the schools, hence as having more exposure to concepts and skills implicit in the culture of the schools. A hypothesis was advanced that might explain how this "exposure" is related to mothers' estimations and children's performance.
4. Maternal estimations were positively correlated with HELPS-R scores, meaning that as mothers' estimations increased, so did the intellectual climate of the home environment.
5. Congruency scores were negatively correlated with children's performance. This meant there was a tendency for increased inaccuracy of estimations to vary with decreased MSCA performance.

The results of the present investigation have raised several implications for parental estimations research and for the study of the cognitive development of Mexican American children. The findings of this study have shown that a linguistically and culturally different group was subject to similar patterns of behavior seen in the existing body of research (e.g., overestimation, fairly accurate, some demographic differences). This could mean that if

Mexican American parents are used as sources of data in assessing their children, they can be expected to be fairly credible in their assessments and helpful in the development of a multi-measurement assessment system, particularly in the development of a system that allows for culturally diverse responses in the assessment process. Concerning the cognitive performance and development of Mexican American children, this investigation has raised some tentative but interesting points. Although the study was designed to be largely descriptive, we have ventured into the challenging area of theory building. The hypotheses advanced should be viewed as seminal and in need of further testing. The present study has shed some light on the nature of cognitive development in Mexican American children, and the future study of the cognitive development of these children vis-á-vis estimations research appears to be a worthwhile focus. What Mexican American parents think of their children's cognitive abilities and how these perceptions and aspirations affect behavior should be an integral part of future research that attempts to examine the relation of familial and sociocultural influences to the cognitive development of Mexican American children.

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MEXICAN AMERICAN MOTHERS' ESTIMATIONS OF THEIR PRESCHOOL CHILDREN'S COGNITIVE PERFORMANCE

APPENDICES

Appendices to final technical report (Contract 90-C-1777) submitted to Administration for Children, Youth, and Families, Office of Human Development Services, U.S. Department of Health, Education, and Welfare, July 1981. Principal Investigator, Dr. Richard R. Valencia and Co-Investigator, Dr. Josué Cruz, Jr.

APPENDIX 1

Subject Information

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Table 1

Types of Preschools Participating in the Study and Frequencies of Children Enrolled

Type Preschool	Schools		Children	
	No.	%	No.[a]	%
Church Related	2	10.0	10	3.9
Head Start	8	40.0	79	30.7
Private Nonprofit	2	10.0	13	5.1
Public (Not School Related)	1	5.0	14	5.5
Public (School Related)	7	35.0	141	54.9
Total	20	100.0%	257	100.1%[b]

[a] Preschool type information was missing for four children.

[b] Due to rounding, some total percentages do not equal 100.0%.

Table 2

Sex of Children

Sex	*f*	%
Boys	107	41.0
Girls	154	59.0
Total	261	100.0%

Table 1

Birthplace of Children

Birthplace	f	%
Arizona	1	0.4
California	226	86.6
Colorado	1	0.4
New Jersey	1	0.4
Texas	1	0.4
Mexico	31	11.9
Total	261	100.1%

Table 4

Age of Mother

Mother's Age (in years)	f	%
20	3	1.1
21	4	1.5
22	13	5.0
23	21	8.0
24	26	10.0
25	20	7.7
26	17	6.5
27	8	3.1
28	18	6.9
29	28	10.7
30	15	5.7
31	11	4.2
32	14	5.4
33	5	1.9
34	14	5.4
35	7	2.7
36	2	0.8
37	3	1.1
38	8	3.1
40	3	1.1
41	1	0.4
42	5	1.9
43	1	0.4
48	2	0.8
49	2	0.8
60	1	0.4
Missing Data	9	3.4
Total	261	100.0%

Table 5

Birthplace of Mother

Birthplace	f	%
Arizona	2	0.8
California	91	34.9
Mississippi	1	0.4
Texas	12	4.6
Central America	1	0.4
Mexico	154	59.0
Total	261	100.1%

Table 6

Length of Residency for Mothers Born in Mexico

Duration (in years)	f	%
2	4	1.5
3	10	3.8
4	3	1.1
5	7	2.7
6	15	5.7
7	11	4.2
8	13	5.0
9	10	3.8
10	16	6.1
11	5	1.9
12	12	4.5
13	9	3.4
14	5	1.9
15	2	0.8
16	4	1.5
17	5	1.9
18	8	3.1
19	2	0.8
20	3	1.1
21	2	0.8
22	3	1.1
23	1	0.4
24	1	0.4
25	2	0.8
36	1	0.4
Not Applicable	107	41.0
Total	261	99.8%

Table 7

Marital Status of Mother

Status	f	%
Married	203	77.8
Divorced	23	8.8
Widowed	1	0.4
Never Married	15	5.7
Separated	9	3.4
Other	9	3.4
Missing Data	1	0.4
Total	261	99.9%

Table 8

Husband in Home

Husband in home?	*f*	%
Yes	208	79.7
No	46	17.6
Missing Data	7	2.7
Total	261	100.0%

Table 9

Home Language Spoken by Mother

Language	f	%
Spanish	172	65.9
English	73	28.0
Both	15	5.7
Missing Data	1	0.4
Total	261	100.0%

Table 10

Number of Years of School Completed by Mother

Duration (in years)	f	%
0	7	2.7
1	2	0.8
2	12	4.6
3	10	3.8
4	11	4.2
5	16	6.1
6	38	14.6
7	6	2.3
8	10	3.8
9	22	8.4
10	21	8.0
11	23	8.8
12 (H.S. Grad)	62	23.8
14 (1 yr. College)	11	4.2
15 (2 yrs. College)	7	2.7
16 (3 yrs. College)	1	0.4
17 (College Grad.)	2	0.8
Total	261	100.0%

Table 11

Last Place Mother Attended School

Place	f	%
Arizona	1	0.4
California	134	51.3
Hawaii	1	0.4
Illinois	1	0.4
Texas	3	1.1
Mexico	114	43.7
Missing Data	7	2.7
Total	261	100.0%

Table 12

Mother Employed Outside Home

Place Employed	f	%
Outside Home	123	47.1
Homemaker	134	51.3
Missing Data	4	1.5
Total	261	99.9%

Table 13

Type of Work Performed by Mother: Full, Part-Time or Occasional

Type of Work	f	%
Full-Time	90	34.5
Part-Time	20	7.7
Occasional	13	5.0
Not Applicable	138	52.9
Total	261	100.1%

Table 14

Social Class of Mother

Hollingshead Index	f	%
High 1	0	0.0
2	4	1.5
3	30	11.5
4	49	18.8
Low 5	177	57.8
Not Applicable	1	0.4
Total	261	100.0%

Table 15

Birthplace of Father

Birthplace	f	%
Alabama	1	0.4
Arizona	2	0.9
California	44	19.3
Idaho	1	0.4
Illinois	1	0.4
New Mexico	2	0.9
Oregon	1	0.4
Texas	14	6.1
Wisconsin	1	0.4
Central America	1	0.4
Europe	2	0.9
Mexico	158	69.3
Not Applicable	33	-
Total	261	100.0%

Table 16

Length of Residency for Fathers Born in Mexico

Duration (in years)	f	%
2	1	0.7
3	6	4.0
4	4	2.6
5	9	6.0
6	9	6.0
7	9	6.0
8	15	9.9
9	10	6.6
10	11	7.3
11	4	2.5
12	10	6.6
13	3	2.0
14	3	2.0
15	13	8.6
16	4	2.6
17	10	6.6
18	3	2.0
19	2	1.3
20	10	6.6
21	2	1.3
22	1	0.7
23	3	2.0
24	1	0.7
25	1	0.7
31	1	0.7
32	2	1.3
33	2	1.3
35	1	0.7
40	1	0.7
Not Applicable	110	-
Total	261	100.0%

Table 17

Home Language Spoken by Father

Language	f	%
Spanish	159	75.0
English	44	20.8
Both	9	4.2
Not Applicable	49	-
Total	261	100.0%

Table 18

Number of Years in School Completed by Father

Duration (in years)	f	%
0	6	2.8
1	2	0.9
2	13	6.2
3	22	10.4
4	15	7.1
5	9	4.3
6	44	20.9
7	6	2.8
8	9	4.3
9	10	4.7
10	10	4.7
11	15	7.1
12 (H.S. Grad.)	26	12.3
14 (1 Yr. College)	9	4.3
15 (2 Yrs. College)	5	2.4
16 (3 Yrs. College)	4	1.9
17 (College Grad.)	3	1.4
18 (Post BA Grad.)	3	1.4
Not Applicable	50	-
Total	261	100.0%

Table 19

Last Place Father Attended School

Place	f	%
California	64	31.1
Hawaii	1	0.5
Illinois	1	0.5
New Mexico	1	0.5
Texas	2	1.0
Mexico	137	66.5
Not Applicable	55	-
Total	261	100.0%

Table 20

Social Class of Father

Hollingshead Index	f	%
High 1	2	0.9
2	5	2.3
3	17	7.9
4	68	31.8
Low 5	122	57.0
Not Applicable	47	-
Total	261	100.0%

Table 21

Others Living In the Home

Other Occupants?	*f*	%
Yes	57	21.8
No	200	76.6
Missing Data	4	1.5
Total	261	99.9%

Table 22

Relationship of Others Living in the Home

Relationship	f	%
Nephew/Niece	3	5.1
Brother-/Sister-in-Law	9	15.3
Mother/Father	14	23.7
Mother-/Father-in-Law	6	10.2
Aunt/Uncle	2	3.4
Son-/Daughter-in-Law	2	3.4
Distant Relative	4	6.3
Other	19	32.2
Not Applicable	202	-
Total	261	100.0%

Table 23

Number of Years Living in Local Area

Duration (in years)	f	%
1	5	1.9
2	9	3.4
3	12	4.6
4	10	3.8
5	17	6.5
6	17	6.5
7	12	4.6
8	16	6.1
9	12	4.6
10	20	7.7
11	8	3.1
12	8	3.1
13	9	3.4
14	6	2.3
15	9	3.4
16	3	1.1
17	6	2.3
18	5	1.9
20	8	3.1
21	3	1.1
22	8	3.1
23	12	4.6
24	11	4.2
25	6	2.3
26	5	1.9
27	6	2.3
28	2	0.8
29	2	0.8
30	2	0.8
31	2	0.8

- continued next page -

Table 23 (cont.)

Number of Years Living in Local Area

Duration (in years)	f	%
32	3	1.1
33	1	0.4
34	3	1.1
35	1	0.4
40	1	0.4
49	1	0.4
Total	261	100.0%

Table 24

Number of Years Living in Present Home

Duration (in years)	f	%
1	51	19.5
2	57	21.8
3	52	19.9
4	12	4.6
5	27	10.3
6	19	7.3
7	9	3.4
8	11	4.2
9	5	1.9
10	7	2.7
11	2	0.8
12	2	0.8
15	1	0.4
16	1	0.4
17	1	0.4
18	1	0.4
24	1	0.4
Missing Data	2	0.8
Total	261	100.0%

Table 25

Rent, Buy, or Board in Home

Dwelling Status	f	%
Rent	197	75.5
Buy	60	23.0
Board	3	1.1
Missing Data	1	0.4
Total	261	100.0%

APPENDIX 2

Spanish Version of the MSCA[1]

[1] Translated by Sonia Lomelí. Do not use this translated version without permission of Dr. Richard R. Valencia, Principal Investigator.

CAPITULO 6: Direcciones para la administración y la notación

1. CONSTRUYENDO CON BLOQUES

p.55

1. TOWER.

A) ¿Ves estos bloques con los que podemos jugar? Mira. Voy a hacer una torre alta. Vamos a ver si tú puedes hacer una igual aquí.

p.56

A) No, haz tu torre aquí

B) Vamos a hacerla otra vez

2. CHAIR.

A) Ahora vamos a ver si puedes hacer una silla bonita como esta.

B) ¿Ves esta silla que yo hice? Haz tú una igual a esta.

C) No, tú haz la tuya aquí.

p. 57

D) Vamos a hacerla otra vez.

3. BUILDING.

A) Vamos a hacer un edificio/building como este.

B) ¿Ves mi edificio/building? Haz tú uno como este aquí

C) No, tú haz el tuyo aquí

D) Vamos a hacerlo otra vez.

p.58

4. HOUSE.

A) Ahora vamos a ver si puedes hacer una casa bonita como esta. Ves, estoy haciendo las paredes así.

B) Y después le pongo el techo así.

C) Haz una como la mía.

D) No, tú haz la tuya aquí

E) Vamos a hacerla otra vez.

2. RESOLVIENDO ROMPECABEZAS

p.60

1. CAT.

A) Vamos a ver si puedes juntar estos dos pedazos y hacer un gato.

B) Creo que si tratas lo puedes hacer./ Trata de hacerlo, si lo puedes hacer.

C) Ves, lo podemos hacer así,

D) Ahora hazlo tú igual que yo.

p.61

2 COW.

A) Ahora junta estos dos pedazos y haz una vaca

B) Creo que si tratas lo puedes hacer.

C) Mira, se hace así, ¿entiendes?

p.62

3. CARROT.

A) Ahora pon estos pedazos juntos y haz una zanahoria.

p.63

4. PEAR.

A) Ahora vamos a juntar estos y hacer una pera jugosa.

p.64

5. BEAR.

A) Ahora vamos a ver si puedes juntar todos estos pedazos y hacer un oso.

p.65

6. BIRD.

A) Ahora vamos a juntar estos y hacer un pájaro.

B) Ese estuvo difícil/duro. Hiciste muy bien con los rompecabezas/puzzles,

Vamos a hacer algo más.

3. MEMORIA PICTORICA

p.66

PROCEDURE

A) Te voy a enseñar unos retratos de cosas. Después los quito para ver de cuantas cosas te recuerdas. Aquí están.

B) Mira con cuidado. Tenemos un botón, un tenedor, un paper-clip, un caballo, un candado y un lápiz.

C) Ahora dime lo que viste.

D) ¿Y qué más?

E) Trata de decirme más.

4. CONOCIMIENTO VERBAL (DE PALABRA)

p.67

PART I. VOCABULARIO DE ILUSTRACIONES

A) Enséñame la manzana.

B) ¿Cuál es la manzana? / o Pon tu dedo en la manzana.

C) Enséñame la manzana.

" el árbol.

" la casa.

" la mujer.

" la vaca.

D) ¿Qué es esto?

E) ¿Qué es esto en el retrato? / o ¿Cómo se llama esto?

F) Pero, ¿cómo se llama todo este retrato? (point to picture)

p.68

PART II. VOCABULARIO ORAL

A) Ahora te voy a preguntar sobre algunas palabras. Algunas son fáciles y otras son duras, pero quiero que me digas todas las que tú sabes.

B) ¿Qué es una toalla?

C) Tú sabes lo que es una toalla, ¿verdad? Dime algo de ella.

D) ¿Qué es una toalla? Tú has visto una toalla, ¿verdad? ¿qué es?

E) ¿Has oído esa palabra alguna vez?

F) ¿Cómo es que la oiste usar antes?

G) Sí, y ¿qué quiere decir eso?

H) ¿Qué es una herramienta/un fierro?

I) ¿Qué quieres decir con fiel?

J) ¿Hay algo más? o ¿Qué más? o Trata de decirme más sobre eso, o Trata de decirme más sobre esa palabra, o Trata de explicar lo que quieres decir.

K) Dime en otras palabras. No se vale usar la misma palabra otra vez.

p.69

L) Escucha con mucho cuidado. ¿Qué quiere decir abrigo/chaqueta/saco?

M) ¿Qué quiere decir encoger?

N) 1. toalla 2. abrigo 3. fierros 4. hilo 5. fábrica 6. encoger 7. experto
8. mes 9. concierto 10. fiel

5. PREGUNTAS NUMERICAS

p.76

PROCEDURE

1. ¿Cuéntas orejas/oídos tienes?

2. ¿Cuántas narices tienes?

3. ¿Cuántas cabezas tienes?

4. Si tú tienes dos juguetes y yo te doy uno más, ¿cuántos juguetes tendrías?

5. Imagínate que tienes cuatro globos. Si la mitad de ellos se te revientan ¿cuántos te quedan?

6. Si yo tengo seis dulces en cada mano, ¿cuántos dulces tengo con todos?

7. Si tienes nueve centavos y pierdes dos, ¿cuántos te quedan?

8. Si voy a la tienda y compro una docena de manzanas, ¿cuántas manzanas tengo?

9. Una caja de crayolas/colores cuesta veintinueve centavos y un libro para colorear/pintar cuesta veintitrés centavos. ¿Cuántos centavos más cuestan las crayolas que el libro para colorear/pintar?

10. Si compras una pelotita por veinte centavos, ¿cuánta feria te darían de un dólar?

11. Estoy pensando en un número secreto. Si lo multiplico por dos y me da ocho, ¿de qué número estoy pensando?

12. Cuatro niños compartieron/se repartieron doce galletas. Si cada niño recibió el mismo número de galletas, ¿cuántas galletas tiene cada uno?

6. SUCESION DE DAR GOLPECITOS/PALMADITAS

p.77

A) Mira y pon atención, y mira si puedes tocar la misma canción.

B) Tú toca eso.

C) No, así no. Mira y hazlo como yo lo hago. Toca la misma canción.

D) Mira y escucha con mucho cuidado

E) Toca eso o Ahora tócalo tú

7. MEMORIA VERBAL

p.79

PART I. PALABRAS Y ORACIONES

A) Ahora voy a decir algunas palabras y quiero ver cuantas de ellas me puedes repetir/decir para atrás. Espera a que las diga todas antes de que empieces a contestar. Escucha.

1. Di: juguete - silla - luz.
2. Ahora di: muñeca - oscuro - abrigo.
3. " : después - color - chistoso - hoy.
4. " : alrededor - porque - debajo - nunca.
5. " : El niño le decía adiós a su perro cada mañana antes de irse a la escuela.
6. Y ahora di: La niña le amarró una cinta rosada muy bonita a su muñeca antes de salir.

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PART II. CUENTO

A) Ahora te voy a leer un cuento chiquito. Escucha con cuidado, y a ver que tan bien me lo puedes decir para atrás. No me lo tienes que decir palabra por palabra. Nada más dime el cuento lo mejor que puedas.

B) Un día, después de la escuela, Roberto iba a la tienda. En su camino vió a una señora que traía unas cartas a un buzón. De repente, el aire le voló las cartas a la calle. Roberto gritó, "¡Yo se las traigo!" Miró a los dos lados y vió que no venían carros. Corrió a la calle y levantó todas las cartas. La señora estaba muy contenta de recibir sus cartas otra vez. Ella le dió las gracias a Roberto por ser un niño bueno y por haberle ayudado.

C) Ahora ponte a pensar y tú dime el mismo cuento.

D) Es un cuento muy bonito pero trata de decirme el que yo te dije.

8. ORIENTACION DE DERECHA E IZQUIERDA

(Not to be administered to children under 4 years, 10 months, 16 days)

p.83

A) A ver si puedes enseñarme tu mano derecha. Levanta la mano derecha.

1. Enséñame tu mano derecha.

2. ¿Cuál es tu oreja izquierda?

3. Con tu mano izquierda, toca tu ojo derecho.

4. Pon tu barba en tu mano izquierda.

5. Cruza tu rodilla izquierda a la derecha.

B) Este niño se llama José.

6. Enséñame la rodilla izquierda de José.

7. Enséñame el codo derecho de José.

8. Enséñame el pié izquierdo de José / con tu mano derecha.

9. Pon tu mano derecha / en el hombro derecho de José.

14. MEMORIA NUMERICA

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PART I. SERIES DELANTERAS

A) Ahora vamos a ver que bien dices los nûmeros. Escucha. Di dos.

B) Ahora di seis.

C) Ahora di

1. Ahora di:	cinco - ocho	cuatro - nueve
2.	seis-nueve-dos	cinco-ocho-tres
3.	tres-ocho-ûno-cuatro	seis-uno-ocho-cinco
4.	cuatro-uno-seis-nueve-dos	nueve-cuatro-uno-ocho-tres
5.	cinco-dos-nueve-seis-uno-cuatro	ocho-cinco-dos-nueve-cuatro-seis
6.	ocho-séis-tres-cinco-dos-nueve-uno	cinco-tres-ocho-dos-uno-nueve-seis

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IIa. PARTE. SERIES AL REVES

A) Ahora quiero que me digas más nûmeros. Esta vez quiero que me los digas al revés

Mira, si yo digo tres-cinco, tu dices cinco-tres. ¿Entendido? ¿Qué dices tû si yo digo tres-cinco?

B) Nö, dirías cinco-tres. Yo dije tres-cinco.

C) Para decirlo al revés, tu dirías cinco-tres. Vamos a tratas otros más.

1. Ahora di estos nûmeros al revés:	nueve-seis	cuatro-uno
2.	uno-ocho-tres	dos-cinco-ocho
3.	cinco-dos-cuatro-nueve	seis-uno-ocho-tres
4.	uno-seis-tres-ocho-cinco	seis-nueve-cinco-dos-ocho
5.	cuatro-nueve-seis-dos-uno-cinco	tres-ocho-uno-seis-dos-nuev

15. FLUIDEZ VERBAL

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1. THINGS TO EAT.

A) Vamos a ver de cuantas cosas diferentes para comer te recuerdas antes de que yo te diga que pares. Tú sabes, como tortillas y papas.

B) Listo, empieza.

C) Trata de decirme de cosas para comer.

D)¿De qué otras cosas para comer te acuerdas?

2. ANIMALS.

E) ¡Qué bien! Ahora vamos a ver de cuantos animales diferentes te puedes acordar antes de que yo diga que pares. Tú sabes, como gato y oso.

F) Listo, empieza. Para.

G) Trata de decirme de algunos animales.

H) ¿De cuáles otros animales te recuerdas?

3. THINGS TO WEAR.

I) Ahora trata de decirme de todas las cosas para vestirse antes de que te diga que pares. Tú sabes, como zapatos. Listo, empieza. Para.

J) Trata de decirme de algunas cosas para vestirse.

K) ¿De qué otras cosas para vestirte te puedes acordar?

4. THINGS TO RIDE.

L) Ahora vamos a ver de cuantas cosas para pasear te acuerdas antes de que yo diga que pares. Tú sabes, como un bus. Listo, empieza.

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A) Trata de decirme de algunas cosas para pasear.

B) ¿De qué otras cosas para pasear te acuerdas?

16. CONTAR Y CLASIFICAR

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1. A) Aquí están los bloques de nuevo. Toma dos de los bloques.

   B) Pónlos aquí.

2. Ahora toma tres bloques más.

3. ¿Cuántos bloques tienes?

4. Aquí tienes unos bloques y aquí tienes unas tarjetas. Pon todos estos bloques arriba de las tarjetas. Pon algunos de los bloques en estas tarjetas y después pon el mismo número en esta tarjeta. No olvides usar todos los bloques, y debes estar seguro de poner el mismo número de bloques en esta tarjeta como en esta tarjeta.

C) ¿Estás seguro de que tienes el mismo número de bloques en cada tarjeta?

D) Está correcto.

E) Debe ser así,

F) Ves, ahora tenemos el mismo número aquí y aquí.

5. ¿Cuántos bloques hay en cada tarjeta?

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6. A) Aquí hay más bloques. Pon algunos de estos bloques en esta tarjeta y después pon el mismo número en esta tarjeta. Usa todos los bloques.

   B) ¿Estás seguro/a de que tienes el mismo número de bloques en cada tarjeta?

   C) Está correcto.

7. ¿Cuántos bloques hay en cada tarjeta?

8. Enséñame el segundo bloque de este lado.

9. Ahora enséñame el cuarto bloque desde esta punta.

17. ANALOGIAS OPUESTAS

A) Yo voy a decir algo y quiero ver si tú puedes acabarlo con una palabra que diga lo contrario de lo que yo diga. Mira. El sol es caliente, ¿y el hielo es____________qué?

B) Debes decir frío porque frío es lo opuesto de caliente. El sol es caliente, y el hielo es frío/helado. ¿entiendes?

C) Ahora trata este. Tiro la pelota arriba, y después viene____________?

D) Muy bien. Ahora ya sabes como hacerlo. Vamos a hacer otra.

E) Abajo, porque es lo opuesto de arriba

F) Yo tiro la pelota para arriba, y después viene para abajo.

1. El sol es caliente, y el hielo es____________________.
2. Tiro la pelota para arriba, y después viene para__________________.
3. Un elefante es grande, y un ratón es__________________.
4. El correr es rápido, y el caminar es____________________.
5. El algodón es suave, y las piedras son________________.

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6. Un limón es ácido/agrio, y el azúcar es________________.
7. Las plumas son livianas, y las piedras son___________________.
8. La miel es espesa, y el agua es____________________.
9. La lija/sandpaper es raposa y el vidrio es__________________.

APPENDIX 3a

Maternal Version of the MSCA--English

Instructions to Examiner:

The two major points to keep in mind while you are administering the MSCA to the parent are: (1) you are not testing the parent. You are simply assessing how well the parent thinks her child did. Therefore, try to make the experience for the parent non-threatening, enjoyable, and of course--interesting. If the parent appears to be reluctant to state how well she thought her child did, try to get her to give her closest opinion; (2) because the mother's perceived scores will be correlated to her child's actual scores, it is important to administer the test in the same fashion--as closely as possible--to the actual testing of the child. Therefore, it is vital you simulate the testing situation as close as possible.

Because it is crucial that all mothers have the same understanding of the nature of the home administration of the MSCA, please state the following introductory remarks to each mother after you introduce yourself and explain why you are there: ON ________ 1979, ABOUT __________ MONTHS AGO (give parent exact date of testing), I VISITED __(child's)__ PRESCHOOL AND GAVE HIM A TEST TO SEE HOW WELL HE WAS DOING IN SOME BASIC KINDS OF SKILLS, SUCH AS RECOGNIZING COLORS, COUNTING, AND SO FORTH.

INCLUDING MYSELF, THERE WERE THREE OTHER WOMEN WHO TESTED CHILDREN. ALL TOGETHER WE TESTED OVER 300 MEXICAN-AMERICAN PRESCHOOL BOYS AND GIRLS.

AT THE END OF OUR VISIT TODAY, I WILL GO OVER THE RESULTS OF HOW ____________ DID COMPARED TO OTHER CHILDREN OF HIS SAME AGE. BUT BEFORE WE DO THAT, I WOULD LIKE TO GO THROUGH EACH ITEM OF THE TEST TO SHOW YOU HOW ______________ WAS TESTED. AS WE GO THROUGH THE TEST --WHICH TAKES ABOUT AN HOUR-- I WOULD LIKE TO ASK YOU YOUR THOUGHTS ABOUT HOW WELL YOU THINK ___________ DID ON EACH ACTIVITY. IF YOU ARE NOT TOO SURE HOW WELL YOU THINK ______________ DID, PLEASE GIVE ANSWERS THAT YOU THINK ARE THE CLOSEST. DO YOU HAVE ANY QUESTIONS? O.K., LET'S BEGIN.

Modified McCarthy Maternal Interview

Directions for Administration and Scoring

Subtest 1. Block Building

Materials

12 1 - inch cubes

Test Limits

For parents of children below 5 years of age, begin with item 1.

For parents of children who are 5 years and above, begin with item 3. If parents predict that the child will pass item 3 with a score of 2 (full credit for Building), give full credit for items 1 and 2 (5 points); otherwise, administer items 1 and 2 before continuing with item 4. Discontinue after parent predicts failure on 2 consecutive items.

Procedure

1. Tower. Place the 12 blocks on the table and build a 6 block tower. FOR THIS TASK WE TOLD____________: SEE THESE BLOCKS WE HAVE TO PLAY WITH? WATCH. I AM MAKING A BIG TALL TOWER. LET'S SEE IF YOU CAN MAKE A TOWER JUST LIKE IT RIGHT HERE. (Point to the space between the tower and the mother)
HOW HIGH DO YOU THINK____________BUILT THE TOWER? (Build the second tower with 2nd set of blocks. After the tower is built say:) DO YOU THINK____________BUILT THE TOWER UP TO HERE (6th block) UP TO HERE (5th block) UP TO HERE (4th block) UP TO HERE (3rd block) UP TO HERE (2nd block) OR UP TO HERE (last block)?
(After removing the second tower say:) LOOK AT THE MODEL AND POINT TO HOW HIGH YOU THINK____________BUILT THE TOWER. IT DIDN'T MATTER WHETHER HE/SHE BUILT THE TOWER A LITTLE CROOKED.

(Only for the parents who predicted the child would not build the entire tower say:)____________WAS GIVEN A SECOND TRY, HOW DO YOU THINK HE/SHE BUILT THE TOWER?
Then, scramble the blocks.

Score: 3 points for a predicted tower of 6 blocks.
2 points for a predicted tower of 4 or 5 blocks.
1 point for a predicted tower of 2 or 3 blocks.

Maximum item score: 3

2. Chair. NEXT I SAID TO______________: NOW LET'S SEE IF YOU CAN MAKE A NICE CHAIR JUST LIKE THIS. (In front of the parent, place 2 blocks touching side by side. Then place a third block on top of the one on the parent's right, making a "chair" in profile view facing toward the parent's left. THEN WE TOLD________________: SEE THE CHAIR I MADE? YOU MAKE ANOTHER ONE JUST LIKE IT RIGHT HERE. (point to the space between the chair and the mother). HOW WELL DO YOU THINK____________BUILT THE CHAIR? DO YOU THINK____________ BUILT THE ENTIRE CHAIR JUST LIKE THIS? OR DID________________ONLY USE THESE TWO BLOCKS (remove the bottom right block); OR DID__________________ONLY USE THESE TWO BLOCKS (replace bottom right block and replace top block); OR DID HE/SHE BUILD SOMETHING DIFFERENT THAN I'VE SHOWN YOU?

(Only for those parents who predicted the child could not build the entire chair, and whose children required a second trial to complete the task, say:) ________________WAS GIVEN A SECOND CHANCE TO TRY TO BUILD THE CHAIR. HOW WELL DO YOU THINK_______________DID?

Then scramble all of the blocks.

Score: 1 point for predicted correct placement of 2 blocks, either horizontally or vertically.

1 point for predicted correct placement of the third block.

Maximum item score: 2

3. Building. NEXT I SAID: LET'S MAKE A BUILDING LIKE THIS. (Place 4 blocks in a row touching each other on the sides. Place a fifth block on the second block on your left.) THEN I SAID: SEE MY BUILDING? YOU MAKE ANOTHER ONE JUST LIKE IT RIGHT HERE. (point).

DO YOU THINK_______________BUILT A BUILDING JUST LIKE MINE? OR DID__________ USE ONLY THESE 4 BLOCKS? (remove top block).
OR DID____________ALSO PUT THIS BLOCK ON TOP RIGHT HERE (Replace top block) AND USE EXTRA BLOCKS ON THE BOTTOM, FOR EXAMPLE A 5th BLOCK (Place a 5th block).
OR DID________________BUILD SOMETHING DIFFERENT FROM WHAT I HAVE SHOWED YOU?

Then scramble the blocks.

Score: 1 point for predicted correct base of 4 blocks.
1 point for predicted correct placement of top block. (even if the base contains an incorrect number of blocks).

Maximum item score: 2

4. HOUSE. NEXT I SAID: LET'S SEE IF YOU CAN MAKE A NICE HOUSE JUST LIKE THIS. SEE, I'M MAKING THE WALLS THIS WAY. (Place 4 blocks in a square with the two of the blocks pushed slightly to the center to support the top block). NEXT I TOLD_______________: AND THEN I'M GOING TO PUT THE ROOF ON LIKE THIS. (Place a fifth block over the center space).

DO YOU THINK________________BUILT A HOUSE LIKE MINE (build a house) OR DO YOU THINK___________________JUST BUILT THE BASE? (take top block off home to show the base). OR DO YOU THINK_______________BUILT A BASE WITH THE RIGHT NUMBER OF BLOCKS--4--BUT THEY WERE NOT PLACED EVEN (Demonstrate). OR DO YOU THINK____________________BUILT A HOUSE WITH A 4 BLOCK BASE AND WITH A ROOF (Demonstrate). OR DO YOU THINK_________________BUILT SOMETHING DIFFERENT FROM WHAT I'VE SHOWED YOU?

(Only for those parents who predicted the child could not build the entire house, and whose children required a second trial to complete the task, say:) ____________________WAS GIVEN A SECOND TRY, HOW WELL DO YOU THINK______________ BUILT THE HOUSE?

Score: 2 points for prediction of correct base.
1 point for prediction of correct placement of top block.
1 point for 4 block base, but with irregular arrangement.

Maximum item score: 3

Maximum test score: 10

Subtest 2. Puzzle Solving

Materials

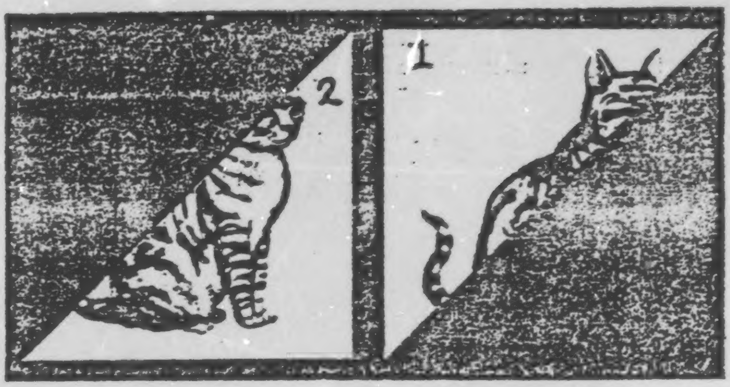
6 puzzles

Test Limits

For parents of children below 5 years of age, begin with item 1.

For parents of children who are 5 and above, begin with item 3. If parents predict that the child will pass item 3 with a score of 2 (maximum score) give full credit for items 1 and 2 (2 points); otherwise administer items 1 and 2 before continuing with item 4. Discontinue after predictions of 3 consecutive failures.

1. Cat. (Place the 2 pieces on the table before the parent in the position shown below):



MOTHER EXAMINER

THE NEXT GROUP OF ACTIVITIES I DID WITH ______________ WERE PUZZLE SOLVING. FOR THE FIRST PUZZLE, I SAID TO ________________: LET'S SEE IF YOU CAN PUT THESE 2 PIECES TOGETHER AND MAKE A CAT.

____________________ HAD 30 SECONDS TO TRY TO PUT THE PUZZLE TOGETHER. DO YOU THINK ____________________ DID NOT MATCH THE PIECES TOGETHER AT ALL?

2 - 1 (Demonstrate a few random attempts and simultaneously say):

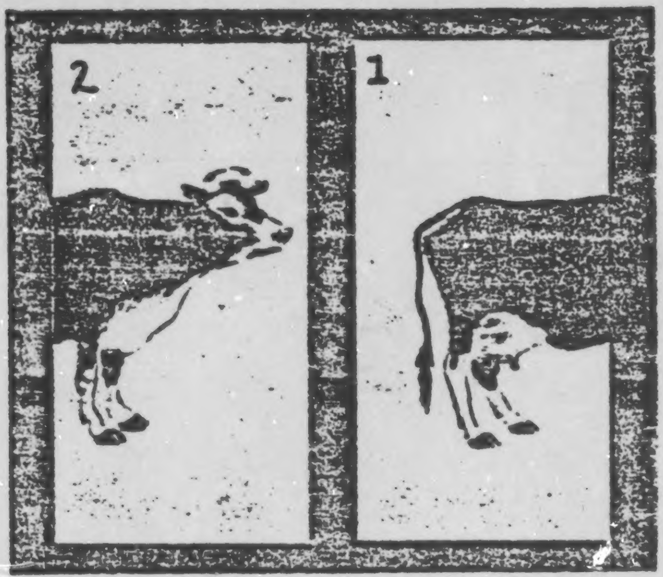
HERE ARE A FEW EXAMPLES OF NOT COMPLETING THE PUZZLE AT ALL. OR, DO YOU THINK _______ COMPLETED THE PUZZLE, LIKE THIS?

1 - 2 (Demonstrate).

Score: 1 point if parent predicts child will succeed.
0 points if parent predicts child will not succeed.

Maximum item score: 1

2. Cow. (Place the 2 pieces on the table before the parent in the position shown below):



MOTHER EXAMINER

FOR THE NEXT PUZZLE, I SAID TO____________________: NOW PUT THESE 2 PIECES TOGETHER AND MAKE A COW.

______________HAD 30 SECONDS TO TRY TO PUT THE PUZZLE TOGETHER. DO YOU THINK_________ DID NOT MATCH THE PIECES TOGETHER AT ALL?

2 - 1 (Demonstrate a few random attempts and simultaneously say):

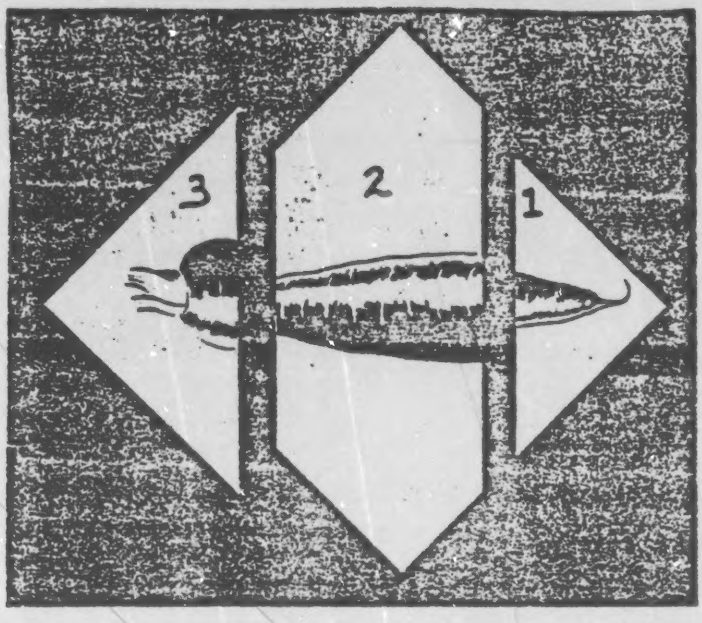
HERE ARE A FEW EXAMPLES OF NOT COMPLETING THE PUZZLE AT ALL. OR, DO YOU THINK________ COMPLETED THE PUZZLE, LIKE THIS?

1 - 2 (Demonstrate).

Score: 1 point if parent predicts child will succeed.
0 points if parent predicts child will not succeed.

Maximum item score: 1

3. Carrot. (Place the 3 pieces on the table before the parent in the position shown below):



MOTHER EXAMINER

NEXT, I SAID TO________________: NOW, PUT THESE PIECES TOGETHER AND MAKE A CARROT.

____________________HAD 30 SECONDS TO TRY TO PUT THE PUZZLE TOGETHER. DO YOU THINK

____________________DID NOT MATCH THE PIECES TOGETHER AT ALL?

3 - 2 - 1 (Demonstrate by pushing the parts together and simultaneously say):

THERE ARE MANY DIFFERENT WAYS OF NOT PUTTING THE PUZZLE TOGETHER. HERE IS ONE EXAMPLE.

OR, DO YOU THINK____________ COMPLETED THE PUZZLE, LIKE THIS?

1 - 2 - 3 (Demonstrate).

OR, DO YOU THINK____________COMPLETED PART OF THE PUZZLE? ONE EXAMPLE OF PUTTING PARTS OF THE PUZZLE TOGETHER IS LIKE THIS:

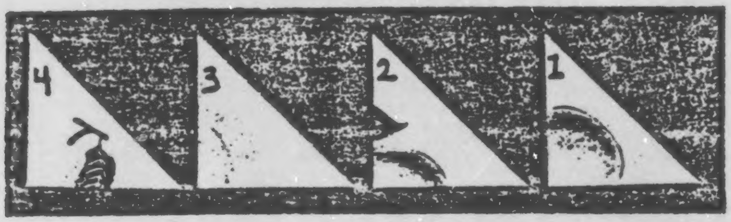
2 - 3 (Demonstrate).

(Finally say to parent): O.K., DO YOU THINK____________DID NOT PUT THE PUZZLE TOGETHER AT ALL, COMPLETED THE PUZZLE, OR COMPLETED ONLY PART OF THE PUZZLE?

Score: 1 point for each cut parent correctly predicts child joined.

Maximum item score: 2 points

4. Pear. (Place the 4 pieces on the table before the parent in the position as shown below):



MOTHER EXAMINER

I NEXT SAID TO________________: NOW LET'S SEE YOU PUT THESE TOGETHER AND MAKE A NICE FAT PEAR.

____________________HAD 60 SECONDS TO TRY TO PUT THE PUZZLE TOGETHER. DO YOU THINK________________DID NOT MATCH THE PIECES TOGETHER AT ALL?

4 - 3 - 2 - 1 (Demonstrate. Say):

HERE IS ONE EXAMPLE OF NOT COMPLETING THE PUZZLE AT ALL. OR, DO YOU THINK__________ COMPLETED THE PUZZLE, LIKE THIS?

4 - 2 - 1 - 3, clockwise (Demonstrate).

OR, DO YOU THINK________________COMPLETED PART OF THE PUZZLE? LET ME SHOW YOU TWO EXAMPLES OF COMPLETING PARTS OF THE PUZZLE. ONE EXAMPLE IS THIS:

4 - 2 - 1, clockwise (Demonstrate).

ANOTHER EXAMPLE IS LIKE THIS:

4 - 2, clockwise (Demonstrate).

(After this final demonstration, put puzzle parts back in the 4 - 2 - 1 - 3 position and say): O.K., DO YOU THINK_______________PUT THE PUZZLE COMPLETELY BACK TOGETHER, LIKE THIS:

4 - 2 - 1 - 3 (Demonstrate).

OR, DO YOU THINK_______________DID NOT COMPLETE THE PUZZLE AT ALL OR, DO YOU THINK________________PUT PART OF THE PUZZLE TOGETHER?

(If parent says full completion, ask): DO YOU THINK_______________COMPLETED THE PUZZLE PERFECTLY IN 20 SECONDS OR LESS?

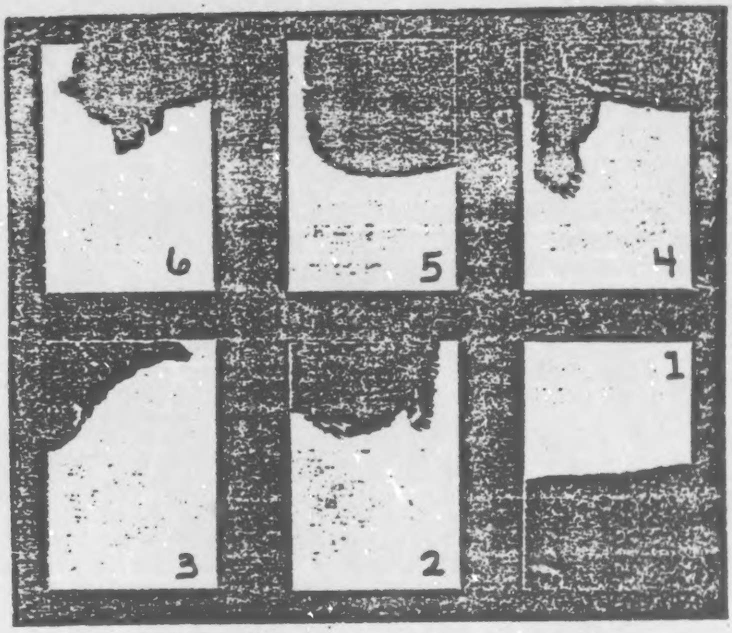
(If parent says a no completion, stop and record score. If parent says part completion, run through partial demonstration again):

4 - 2 - 1, clockwise (Demonstrate)
and
4 - 2, clockwise (Demonstrate)

Score: 1 point for each cut parent correctly predicts child joined. Give 1 bonus point if the child completes the puzzle perfectly in 20 seconds or less.

Maximum item score: 5 (4 cuts, plus 1 possible bonus point for speed)

5. Bear. (Place the 6 pieces on the table before the parent in the position as shown below):



MOTHER EXAMINER

FOR THE NEXT PUZZLE, I SAID TO________________: NOW LET'S SEE IF YOU CAN PUT ALL THESE PIECES TOGETHER AND MAKE A BEAR.

________________HAD 90 SECONDS TO TRY TO PUT THE PUZZLE TOGETHER. DO YOU THINK ________________ DID NOT MATCH THE PIECES TOGETHER AT ALL?

6 - 5 - 4
3 - 2 - 1
(left to right)

(Demonstrate. Say): HERE IS ONE EXAMPLE OF NOT COMPLETING THE PUZZLE AT ALL. OR, DO YOU THINK______________COMPLETED THE PUZZLE, LIKE THIS?

6 - 3
4 - 1
2 - 5 (Demonstrate)

OR, DO YOU THINK______________COMPLETED PART OF THE PUZZLE? LET ME SHOW YOU 5 EXAMPLES OF COMPLETING PARTS OF THE PUZZLE. ONE EXAMPLE IS THIS:

6 - 3
4 - 1
2 (Demonstrate)

HERE'S A SECOND EXAMPLE:

6 - 3
4
2 - 5 (Demonstrate)

A THIRD EXAMPLE IS:

6 - 3
4
2 (Demonstrate)

NEXT, HERE'S A FOURTH EXAMPLE:

6
4
2 (Demonstrate)

FINALLY, A FIFTH EXAMPLE IS:

6
4 (Demonstrate)

(After this final demonstration, put puzzle parts back in the
6 - 3
4 - 1
2 - 5 position and say):

O.K., DO YOU THINK______________PUT THE PUZZLE COMPLETELY BACK TOGETHER, LIKE THIS?

6 - 3
4 - 1
2 - 5 (Demonstrate)

OR, DO YOU THINK______________DID NOT COMPLETE THE PUZZLE AT ALL OR, DO YOU THINK________________PUT PART OF THE PUZZLE TOGETHER?

(If parent says full completion, ask): DO YOU THINK______________COMPLETED THE PUZZLE PERFECTLY IN 45 SECONDS OR LESS? (If parent says yes, ask): DO YOU THINK ________________COMPLETED THE PUZZLE PERFECTLY IN 30 SECONDS OR LESS?
(If parent says no completion, stop and record. If parent says part completion, run through partial demonstration again):

6 - 3
4 - 1
2 (Demonstrate)
and,

6 - 3
4
2 - 5 (Demonstrate)
and,

6 - 3
4
2 (Demonstrate)
and,

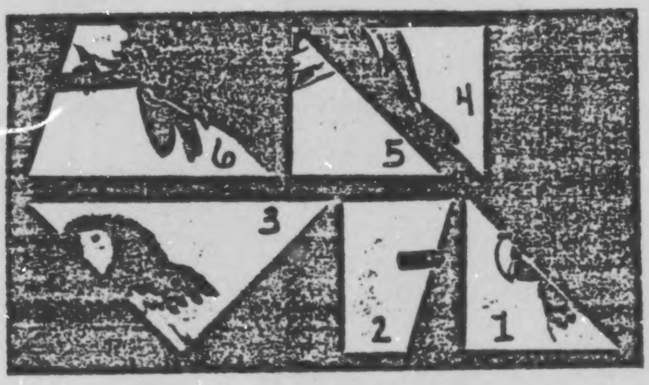
6
4
2 (Demonstrate)
and,

6
4 (Demonstrate)

Score: 1 point for each cut parent correctly predicts child joined.
Give 2 bonus points if the parent predicts child completes the puzzle perfectly in 30 seconds or less.
Give 1 bonus point if the parent predicts child completes the puzzle perfectly in 31-45 seconds.

Maximum item score: 9 (7 cuts, plus 2 possible bonus points for speed).

6. Bird. (Place the 6 pieces on the table before the parent in the position as shown below):



MOTHER EXAMINER

FOR THE FINAL PUZZLE, I SAID TO_____________: NOW PUT THESE PIECES TOGETHER TO MAKE A BIRD.

____________________HAD 120 SECONDS TO TRY TO PUT THE PUZZLE TOGETHER. DO YOU THINK________________DID NOT MATCH THE PIECES TOGETHER AT ALL?

6 - 5 - 4
3 - 2 - 1 (Demonstrate. Say):

HERE IS ONE EXAMPLE OF NOT COMPLETING THE PUZZLE AT ALL. OR, DO YOU THINK__________ COMPLETED THE PUZZLE, LIKE THIS?

1 - 3 - 5
2 - 6 - 4 (Demonstrate)

OR, DO YOU THINK______________COMPLETED PART OF THE PUZZLE? LET ME SHOW YOU 5 EXAMPLES OF COMPLETING PARTS OF THE PUZZLE. ONE EXAMPLE IS THIS:

1 - 3 - 5
2 - 6 (Demonstrate)

HERE'S A SECOND EXAMPLE:

1 - 3
2 - 6 (Demonstrate)

A THIRD EXAMPLE IS:

1 - 3 - 5
2 (Demonstrate)

NEXT, HERE'S A FOURTH EXAMPLE:

1 - 3 - 5 (Demonstrate)

9

FINALLY, A FIFTH EXAMPLE IS:

1 - 3 (Demonstrate)

(After this final demonstration, put puzzle parts back in the

1 - 3 - 5
2 - 6 - 4 position and say):

O.K., DO YOU THINK____________PUT THE PUZZLE COMPLETELY BACK TOGETHER, LIKE THIS?

1 - 3 - 5
2 - 6 - 4 (Demonstrate)

OR, DO YOU THINK____________DID NOT COMPLETE THE PUZZLE AT ALL OR, DO YOU THINK____________PUT PART OF THE PUZZLE TOGETHER?

(If parents say full completion, ask): DO YOU THINK ____________COMPLETED THE PUZZLE PERFECTLY IN 60 SECONDS OR LESS? (If parent says yes, ask): DO YOU THINK ____________COMPLETED THE PUZZLE PERFECTLY IN 30 SECONDS OR LESS? (If parent says part completion, run through partial demonstration again):

1 - 3 - 5
2 - 6 (Demonstrate)
and,

1 - 3
2 - 6 (Demonstrate)
and,

1 - 3 - 5
2 (Demonstrate)
and,

1 - 3 - 5 (Demonstrate)
and,

1 - 3 (Demonstrate)

Score: 1 point for each cut parent correctly predicts child joined.
Give 2 bonus points if the parent predicts child completed the puzzle perfectly in 30 seconds or less.
Give 1 bonus point if the parent predicts the child completed the puzzle perfectly in 60 seconds or less.

Subtest 3. Pictorial Memory

Materials

1 pictorial memory card (in the Card Book)

Test Limits

Give test to all parents.

Procedure

AFTER THE PUZZLES, I SAID TO______________________: I AM GOING TO SHOW YOU A PICTURE OF SOME THINGS. THEN I WILL TAKE IT AWAY AND SEE HOW MANY THINGS YOU CAN REMEMBER. HERE THEY ARE. (Open the Card Book to the Pictorial Memory Card and place it on the table in front of parent.)

THEN I SAID TO ________________: LOOK CAREFULLY. WE HAVE A BUTTON, A FORK, A PAPER CLIP, A HORSE, A LOCK, AND A PENCIL.

________________WAS GIVEN 10 SECONDS TO LOOK AT THE PICTURES. AFTER THE 15 SECONDS I SAID: NOW TELL ME WHAT YOU SAW. _______________HAD 90 SECONDS TO ANSWER. HOW MANY THINGS DO YOU THINK_______________REMEMBERED? (Open booklet and keep in front of parent for inspection).

Score: 1 point for prediction of each object correctly recalled.

Maximum test score: 6

Subtest 4. Word Knowledge

Materials

5 picture vocabulary cards

7 cards for Part 2 with acceptable 1 and 2 point answers and nonacceptable answers.

Test Limits

For parents of children below 5 years of age begin with Part I. Administer Part II only if parent predicts that child received at least 6 points on Part I.

For parents of children who are 5 and above, begin with Part II. If parent predicts child scored above 0 on both items 1 and item 2 in Part II, give full credit for Part I (9 points). Otherwise, complete administration of Part II and then administer Part I.

Discontinue testing if parent predicts child received less than 6 points on Part I. Discontinue testing on Part II after predictions of 4 consecutive failures on that part.

Procedure

Part I. Picture Vocabulary

Card 1. Turn to Picture Vocabulary Card 1 in the Card Book and place it on the table in front of parent.

NEXT I SHOWED__________THIS CARD (demonstrate to parent) I ASKED__________: SHOW ME THE APPLE.

DO YOU THINK__________SHOWED ME THE APPLE?

DO YOU THINK__________SHOWED ME THE TREE?

WHEN I ASKED__________: SHOW ME THE HOUSE. DO YOU THINK__________ SHOWED ME THE HOUSE?

HOW ABOUT THE WOMAN? DO YOU THINK__________SHOWED ME THE WOMAN? FINALLY WHEN I ASKED__________: SHOW ME THE COW. DO YOU THINK__________SHOWED ME THE COW?

Cards 2-5 . Present cards 2-5 one at a time.

NEXT I SHOWED__________FOUR CARDS, ONE AT A TIME AND ASKED: WHAT IS THIS? WHEN I ASKED__________TO TELL ME WHAT THIS WAS (show parent picture of clock), DO YOU THINK__________TOLD ME CORRECTLY? ACCEPTABLE RESPONSES WERE SUCH AS CLOCK OR WATCH, OR TIC TOC.

WHEN I ASKED__________TO TELL ME WHAT THIS WAS (show mother picture of sailboat), DO YOU THINK__________TOLD ME CORRECTLY? ACCEPTABLE RESPONSES WERE WORDS LIKE SAILBOAT OR SHIP.

WHEN I ASKED__________TO TELL ME WHAT THIS WAS (show mother picture of flower), DO YOU THINK__________TOLD ME CORRECTLY? ACCEPTABLE RESPONSES WERE WORDS LIKE FLOWER, OR NAME OF A CERTAIN FLOWER LIKE ROSE OR DAISY.

WHEN I ASKED__________TO TELL ME WHAT THIS WAS (show mother picture of purse), DO YOU THINK__________TOLD ME CORRECTLY? ACCEPTABLE RESPONSES WERE WORDS LIKE PURSE, OR HANDBAG, OR BAG.

Score: 1 point for prediction of each correct response.

Maximum score on Card 1: 5

Maximum score on Cards 2-5: 4

Maximum score on Part I: 9

Part II. Oral Vocabulary

Procedure

"I TOLD__________: NOW I'M GOING TO ASK YOU ABOUT SOME WORDS. SOME OF THEM ARE EASY AND SOME ARE HARD BUT I WANT YOU TO TELL ME ABOUT ALL THE ONES YOU KNOW.

FIRST, I ASKED__________: WHAT IS A TOWEL? WHAT DO YOU THINK__________ ANSWERED? PRESCHOOL CHILDREN OFTEN GIVE DIFFERENT ANSWERS WHEN ASKED TO EXPLAIN WORDS. HERE ARE SOME POSSIBLE ANSWERS CHILDREN MIGHT GIVE (show mothers the 5x7 cards). NOTICE THAT THERE ARE 3 GROUPS OF POSSIBLE ANSWERS WITH 2 EXAMPLES IN EACH GROUP. WHICH GROUP OF ANSWERS DO YOU THINK HAS THE KIND OF ANSWERS __________GAVE WHEN I ASKED HIM/HER: WHAT IS A TOWEL?

NEXT I ASKED__________: WHAT IS A COAT? WHAT DO YOU THINK__________ ANSWERED? (show mother next 5x7 card and ask:) WHICH GROUP OF ANSWERS DO YOU THINK HAS THE KIND OF ANSWERS__________GAVE WHEN I ASKED HIM/HER: WHAT IS A COAT?

NEXT I ASKED__________: WHAT IS A TOOL? WHAT DO YOU THINK__________ ANSWERED? (show mother next 5x7 card and ask:) WHICH GROUP OF ANSWERS DO YOU THINK HAS THE KIND OF ANSWERS__________GAVE WHEN I ASKED HIM/HER: WHAT IS A TOOL?

NEXT I ASKED__________: WHAT IS THREAD? WHAT DO YOU THINK__________ ANSWERED? (show mother next 5x7 card and ask:) WHICH GROUP OF ANSWERS DO YOU THINK HAS THE KIND OF ANSWERS__________GAVE WHEN I ASKED HIM/HER: WHAT IS THREAD?

NEXT I ASKED__________: WHAT IS A FACTORY? WHAT DO YOU THINK__________ ANSWERED? (show mother next 5x7 card and ask:) WHICH GROUP OF ANSWERS DO YOU THINK HAS THE KIND OF ANSWERS__________GAVE WHEN I ASKED HIM/HER: WHAT IS A FACTORY

NEXT I ASKED__________: WHAT IS A SHRINK? WHAT DO YOU THINK____________ ANSWERED? (show the mother next 5x7 card and ask:) WHICH GROUP OF ANSWERS DO YOU THINK HAS THE KIND OF ANSWERS_________GAVE WHEN I ASKED HIM/HER: WHAT IS A SHRINK

NEXT I ASKED___________: WHAT IS AN EXPERT? WHAT DO YOU THINK___________ ANSWERED? (show mother next 5x7 card and ask:) WHICH GROUP OF ANSWERS DO YOU THINK HAS THE KIND OF ANSWERS________GAVE WHEN I ASKED HIM/HER: WHAT IS AN EXPERT?

NEXT I ASKED____________: WHAT IS MONTH? WHAT DO YOU THINK_______ANSWERED? (show mother next 5x7 card and ask:) WHICH GROUP OF ANSWERS DO YOU THINK HAS THE KIND OF ANSWERS__________GAVE WHEN I ASKED HIM/HER: WHAT IS MONTH?

NEXT I ASKED___________: WHAT IS A CONCERT? WHAT DO YOU THINK___________ ANSWERED? (show mother next 5x7 card and ask:) WHICH GROUP OF ANSWERS DO YOU THINK HAS THE KIND OF ANSWERS____________GAVE WHEN I ASKED HIM/HER: WHAT IS A CONCERT?

NEXT I ASKED___________: WHAT IS LOYAL? WHAT DO YOU THINK___________ ANSWERED? (show mother next 5x7 card and ask:) WHICH GROUP OF ANSWERS DO YOU THINK HAS THE KIND OF ANSWERS___________GAVE WHEN I ASKED HIM/HER: WHAT IS LOYAL?

Score: 2, 1, 0 points according to scoring standards set in child manual (p.70).

Subtest 5. Number Questions

Test Limits

Begin with item 1 for all parents. Discontinue after prediction of 4 consecutive failures.

Procedure

NEXT I ASKED ______________ SOME NUMBER QUESTIONS.

1. WHEN I ASKED ______________: HOW MANY EARS DO YOU HAVE? DO YOU THINK HE/SHE TOLD ME THE RIGHT ANSWER, 2?

2. I ASKED ______________: HOW MANY NOSES DO YOU HAVE? DO YOU THINK HE/SHE TOLD ME, 1?

3. THEN I ASKED ______________: HOW MANY HEADS DO YOU HAVE? DO YOU THINK ________ TOLD ME THAT HE/SHE HAD ONE HEAD?

4. THEN I ASKED: ______________: IF YOU HAVE 2 TOYS AND I GIVE YOU ONE MORE, HOW MANY TOYS WILL YOU HAVE? DO YOU THINK HE/SHE TOLD ME 3?

5. THEN I SAID TO ______________: SUPPOSE YOU HAD 4 BALLOONS. IF HALF OF THEM BROKE, HOW MANY WOULD BE LEFT? DO YOU THINK THAT HE/SHE CORRECTLY RESPONDED BY SAYING 2?

6. NEXT I SAID TO ______________: IF I HAVE THREE PIECES OF CANDY IN EACH HAND, HOW MANY PIECES DO I HAVE ALTOGETHER? DO YOU THINK HE/SHE SAID THE CORRECT ANSWER, 6 PIECES OF CANDY?

7. THEN I SAID TO: ______________: IF YOU HAVE 9 PENNIES AND LOSE 2 OF THEM, HOW MANY WILL YOU HAVE LEFT? DO YOU THINK HE/SHE CORRECTLY TOLD ME 7?

8. NEXT I SAID: IF I WENT TO THE STORE AND BOUGHT A DOZEN APPLES, HOW MANY APPLES WOULD THAT BE? DO YOU THINK ______________ TOLD ME THERE WERE 12 APPLES?

9. NEXT I TOLD ______________: A BOX OF CRAYONS COSTS 29 CENTS AND A COLORING BOOK COSTS 23 CENTS. HOW MUCH MORE DO THE CRAYONS COST THAN THE COLORING BOOK? DO YOU THINK HE/SHE TOLD ME 6 CENTS?

10. IN THE NEXT PROBLEM I SAID: IF YOU BUY A TOY BALL FOR 20 CENTS, HOW MUCH CHANGE SHOULD YOU GET FROM A DOLLAR BILL? DO YOU THINK ____________ CORRECTLY RESPONDED BY SAYING .80 CENTS?

11. THEN I SAID: I AM THINKING OF A SECRET NUMBER. IF 2 TIMES THE NUMBER IS 8, WHAT IS THE NUMBER? DO YOU THINK HE/SHE TOLD ME THE NUMBER WAS 4?

12. IN THE FINAL PROBLEM I SAID TO _________: FOUR CHILDREN SHARED 12 COOKIES. IF EACH CHILD GOT THE SAME NUMBER OF COOKIES, HOW MANY COOKIES DID EACH CHILD GET? DO YOU THINK HE/SHE CORRECTLY ANSWERED 3?

Score: 1 point for each predicted correct response

Maximum test score: 12

Note: If parent predicts that child passed 9 or more items on numbers questions, he/she should be given full credit (9 points) for Counting and Sorting (Test 16)

Subtest 6. TAPPING SEQUENCE

Materials

Xylophone

Mallet

Test Limits

Begin with item 1 for all parents. If parent predicts that child will correctly play the tune on any one of 3 trials, proceed with items 2-8, and discontinue after 2 consecutive failures.

Procedure

Place the xylophone in front of the parent. I TOLD____________WATCH AND LISTEN VERY CAREFULLY AND SEE IF YOU COULD PLAY THE SAME TUNE I DO. WHEN I PLAYED THIS SEQUENCE (considering the largest key as number 1, tap the keys sharply with the mallet, about one tap per sequence, in the sequence for item 1: 1-2-3-4), DO YOU THINK THAT__________CORRECTLY REPRODUCED ALL OF THE PATTERN? SOME OF IT? OR DID__________JUST HIT THE KEYS IN A RANDOM MATTER?

If the parent predicted that the child did not reproduce the correct sequence DO YOU THINK______________COULD PLAY THE CORRECT SEQUENCE AFTER 2 or 3 TRYS IF I SHOWED__________AGAIN?

Score: 2 points if parent predicts the sequence was correctly reproduced.
1 point if parent predicts child reproduced only part of the sequence.
0 points if parent predicts child cannot reproduce sequence.

Maximum item score: 2

If parent predicts child played item 1 correctly (i.e. received 2 points for best trial) continue with items 2-8, demonstrating each sequence. For each item.

NEXT I TOLD____________: WATCH AND LISTEN VERY CAREFULLY AND SEE IF YOU CAN PLAY THE SAME TUNE I DO. THIS TIME HE/SHE HAD ONLY ONE TRY. DO YOU THINK ______________CORRECTLY PLAYED THIS TUNE?

(Before playing tune number 2 say:)

DO YOU THINK HE/SHE CORRECTLY PLAYED THIS NEXT TUNE? (Do this before each of the remaining times).

(2) 1-3-4
(3) 2-4-1
(4) 4-1-2-3
(5) 2-3-1-4
(6) 1-4-3-2-3
(7) 4-2-3-1-2
(8) 1-2-4-3-2-1

Score: 1 point for each predicted correctly reproduced sequence.

Maximum test score: 9

Subtest 7. Verbal Memory

Materials

6 cards with words printed on them (Part I)

1 card with Story printed on it (Part II)

Test Limits

Begin with Part I for all parents. Discontinue predictions of 3 consecutive failures. If parent predicts child earned 8 or more points (out of 30) on Part I, give Part II.

Procedure

Part I. Words and Sentences

NEXT I SAID SOME WORDS AND ASKED ____________ TO SEE HOW MANY OF THEM HE/SHE REMEMBERED. THIS IS WHAT I TOLD ____________: NOW I AM GOING TO SAY SOME WORDS AND I WANT TO SEE HOW MANY OF THEM YOU CAN SAY AFTER ME. WAIT UNTIL I HAVE FINISHED SAYING ALL THE WORDS BEFORE YOU START TO ANSWER. LISTEN. WHEN I SAID THESE WORDS TO ____________ (present first 3x5 card and say words:) TOY--CHAIR--LIGHT, HOW MANY WORDS DO YOU THINK ____________ CORRECTLY REPEATED, AND DO YOU THINK THE CORRECT WORDS WERE REPEATED IN THE CORRECT ORDER? ________________ DID NOT HAVE THIS CARD TO LOOK AT. HE/SHE HAD TO DO IT FROM MEMORY, OKAY? FOR THE 1st CARD HOW MANY WORDS DO YOU THINK ____________ CORRECTLY REPEATED? (After parent response say:) DO YOU THINK THE CORRECT WORDS REPEATED WERE REPEATED IN THE CORRECT ORDER? (If parent says no ask her:) WHAT WAS THE ORDER THAT YOU THINK ______________ GAVE?

Repeat procedure for items 2-4.

2. doll-dark-coat
3. after-color-funny-today
4. around-because-under-never

Score for items 1-4: Score 1 point for each word predicted to be correctly repeated.

FOR THE NEXT WORDS I ASKED ______________ TO SAY:

5. THE BOY SAID GOOD-BYE TO HIS DOG EVERY MORNING BEFORE HE WENT TO SCHOOL.

I GAVE ______________ POINTS IF HE/SHE REPEATED THE KEY WORDS YOU SEE UNDERLINED ON THIS CARD (Read words to mother) HOW MANY OF THESE KEY WORDS DO YOU THINK ____________ REPEATED. IT DIDN'T MATTER IF THEY WERE OUT OF SEQUENCE.

6. NEXT I READ THE FOLLOWING SENTENCE TO ____________: THE GIRL TIED A PRETTY PINK RIBBON ON HER DOLL BEFORE SHE WENT OUT. (Repeat directions to parents).

Score for items 5 and 6: Based on the prediction of the reproduction of key words. Give 1 point for each key word repeated.

Maximum score on Part I: 30

Part II. Story

NEXT I READ________________A STORY AND ASKED_______________TO TELL IT BACK TO ME. HE/SHE DIDN'T HAVE TO REPEAT IT WORD FOR WORD. HE/SHE WAS JUST SUPPOSED TO TELL IT AS BEST HE/SHE COULD. THESE ARE THE INSTRUCTIONS I GAVE________________: NOW I AM GOING TO READ YOU A LITTLE STORY. LISTEN CAREFULLY, AND WE WILL SEE HOW WELL YOU CAN TELL IT BACK TO ME. YOU DON'T HAVE TO TELL IT BACK TO ME WORD-FOR-WORD. JUST TELL ME THE STORY AS WELL AS YOU CAN.

ONE DAY AFTER SCHOOL BOB WAS WALKING TO THE STORE. ON THE WAY, HE SAW A WOMAN CARRYING SOME LETTERS TO A MAILBOX. SUDDENLY, THE WIND BLEW THE WOMAN'S LETTERS INTO THE STREET. BOB SHOUTED, "I'LL GET THEM FOR YOU!" HE LOOKED BOTH WAYS AND SAW THAT THERE WERE NO CARS COMING. HE RAN INTO THE STREET AND PICKED UP ALL OF THE LETTERS. THE WOMAN WAS VERY HAPPY TO GET HER LETTERS BACK. SHE THANKED BOB FOR BEING SUCH A KIND AND HELPFUL BOY.

"WHEN I ASKED________________TO TELL THE STORY BACK TO ME AS WELL AS HE/SHE COULD, DO YOU THINK______________REMEMBERED OR MENTIONED:

1. "THE STORY WAS ABOUT A BOY?
   Acceptable words he/she could have used are words like Bob, Tom (or any other boys names), guy, little boy. Any words like those were correct."

2. "THERE WAS A WOMAN IN THE STORY?
   ________________could have used words like woman, lady, mother, grandmother or a name like Mrs. García."

3. "THAT THE STORY WAS ABOUT LETTERS?
   ________________could have used words like letter, mail, post card."

4. "THE BOY WAS ON HIS WAY TO SOME KIND OF STORE?
   For example______________could have said that the boy was walking, going, running to the store, the supermarket or grocery store."

5. "THAT THE BOY MET SOMEONE?
   ________________could have used words like saw, met, came across, looked at."

6. "THAT SOMETHING WAS BLOWN AWAY?
   ________________could have said the wind blew something or something flew."

7. "THAT THE BOY LET THE WOMAN KNOW HE IS GOING TO HELP HER?
   __________________could have said the boy shouted, yelled "I'll get them, pick them up, find them for you."

8. "THAT THE BOY WAS CAREFUL BEFORE GOING INTO THE STREET, OR THE GUTTER OR ROAD? For example, the boy was careful to look both ways to see if there were cars coming."

9. "THAT THE BOY EITHER WENT AFTER PICKED UP OR RETURNED THE WOMAN'S LETTERS?"

10. "THAT THE WOMAN WAS HAPPY OR GLAD THAT THE BOY GAVE HER THE LETTERS?"

11. "THAT THE WOMAN THANKED THE BOY FOR BEING KIND OR HELPFUL?"

Score: 1 point for each item predicted to be remembered

Maximum score on Part II: 11

Subtest 8. Right - Left Orientation

Materials

Picture of a boy (in the Card Book)

Test Limits

Only administer this subtest to parents whose child is over age 5 (over 4 years, 10 months, 16 days).

Begin with item 1. Discontinue after failure on 5 consecutive items. To fail a 2-part item (e.g., items 3, 8, and 9), the parent has to predict 0 on both parts of the item; otherwise the item is considered passed.

Procedure

(Sit on the same side as the parent, but first explain that when you tested ______________ you were sitting opposite her child).

NEXT I ASKED ______________ SOME QUESTIONS TO SEE IF HE/SHE KNEW HIS/HER RIGHT FROM LEFT. THE FIRST QUESTION I ASKED ____________ WAS:

1. SHOW ME YOUR RIGHT HAND.
   DO YOU THINK ___________ SHOWED ME HIS/HER RIGHT HAND? (demonstrate)

2. NEXT I ASKED ___________: WHICH IS YOUR LEFT EAR?
   DO YOU THINK ___________ SHOWED ME HIS/HER LEFT EAR? (demonstrate)

3. I THEN TOLD __________: TOUCH YOUR RIGHT EYE/WITH YOUR LEFT HAND.
   HERE, ____________ WAS ASKED TO DO TWO THINGS. (demonstrate) DO YOU THINK ____________ CORRECTLY DID BOTH, ONLY ONE, OR NONE?

4. NEXT I TOLD ___________: PUT YOUR CHIN IN YOUR LEFT HAND.
   DO YOU THINK ___________ PUT HIS/HER CHIN IN HIS/HER LEFT HAND? (demonstrate)

5. FOR THE NEXT ACTIVITY I SAID TO _____________: CROSS YOUR LEFT KNEE OVER YOUR RIGHT ONE.
   DO YOU THINK ____________ CROSSED HIS/HER LEFT KNEE OVER HIS/HER RIGHT ONE? (demonstrate)

6. (Turn to the last card, Roger, in the Card Book and place it on the table in front of the parent and you).
   FOR THE NEXT ACTIVITIES I SHOWED _____________ THIS PICTURE OF A BOY, AND I ASKED MORE RIGHT-LEFT QUESTIONS.
   FIRST I SAID TO ____________: THIS BOY'S NAME IS ROGER. SHOW ME ROGER'S LEFT KNEE.
   DO YOU THINK ___________ SHOWED ME ROGER'S LEFT KNEE? (demonstrate)

7. AFTER THIS, I ASKED______________: SHOW ME ROGER'S RIGHT ELBOW.
DO YOU THINK____________SHOWED ME ROGER'S RIGHT ELBOW? (demonstrate)

8. NEXT, I SAID TO____________: SHOW ME ROGER'S LEFT FOOT/WITH YOUR RIGHT HAND.
✓ FPR THIS ACTIVITY,________________WAS ASKED TO DO TWO THINGS. (demonstrate)
DO YOU THINK_____________CORRECTLY DID BOTH, ONLY ONE, OR NONE?

9. FINALLY, I ASKED________________: PUT YOUR RIGHT HAND/ON ROGER'S RIGHT SHOULDER.
AGAIN, _______________WAS ASKED TO DO TWO THINGS. (demonstrate). DO YOU THINK
_____________CORRECTLY DID BOTH, ONLY ONE, OR NONE?

Score: 1 point for each item (or each part of an item having 2 parts) answered correctly.

Maximum test score: 12

Subtest 12. Draw-A-Design

Materials

Drawing Booklet
Pages with 2, 1 and 0 point responses for each item

Test Limits

Begin with item 1 for all parents. Discontinue after predictions of 3 consecutive failures. If parent predicts child earned 1 or more points on Draw-A-Design, give Draw-A-Child (Test 13). If parent predicts child received no credit on Draw-A-Design, proceed to Test 14.

Procedure

NEXT I SHOWED ________________ SOME DESIGNS AND THEN ASKED HIM/HER TO MAKE DRAWINGS LIKE THE DESIGNS. THERE WERE NO TIME LIMITS. I SAID TO ______________: LET'S SEE YOU MAKE YOUR DRAWINGS DOWN HERE. (Point to the blank bottom half).

THE FIRST DESIGN I SHOWED ______________ WAS A CIRCLE. (Show parent picture of item 1 in Drawing Booklet). WHICH ONE OF THESE DRAWINGS DO YOU THINK IS MOST LIKE THE ONE ________________ DREW? (Present to the parent the card with different circle drawings).

Score: go according to criteria set in MSCA manual (p.99).

Repeat procedure with items 2-9. Use scoring on pps. 101-111 in manual.

Maximum test score: 19

Subtest 13. Draw-A-Child

Material:

Drawing Booklet
1 short pencil (4-6 inches long) with no eraser
Pages with 2, 1, and 0 responses for each part of drawing

Test Limits

Administer only if parent predicts child earned 1 or more points on Draw-A-Design.

Procedure

AFTER THE DESIGN DRAWINGS, I ASKED_______________TO DRAW A BOY/GIRL (depending on sex of child). THIS IS THE KIND OF PENCIL HE/SHE USED. (Show parent). THERE WAS NO TIME LIMIT. THIS IS WHAT I SAID TO_______________: LET'S SEE YOU DRAW A BOY/GIRL ON THIS PAGE. (Show page to parent). DO IT AS NICELY AS YOU CAN. BE SURE TO MAKE ALL OF HIM/HER.

WHICH ONE OF THESE DRAWINGS DO YOU THINK IS MOST LIKE THE HEAD THAT _________DREW? OR DO YOU THINK_____________DID NOT DRAW A HEAD AT ALL? (Present to parent page with different head drawings).

Score: go according to criteria set in child manual (pps. 113-114)

Repeat procedure with hair, eyes, nose, mouth, neck, trunk, arm and hands, attachment of arm, legs and feet. (Scoring on pps. 114-121).

Maximum test score: 20

Subtest 14. Numerical Memory

Materials

1 card with numbers listed for each item (Part I) trial 1 and 2
1 card with numbers listed for each item (Part II) trial 1 and 2

Test Limits

Begin with Part I for all parents. Discontinue after predictions of failure on both trials of any item. If parent predicts child earned 3 or more points on Part I, give Part II and discontinue after predictions of failure on both trials of any item.

Part I: Forward Series

Procedure

NEXT WE DID A NUMBER MEMORY ACTIVITY. FIRST WE WENT THROUGH TRIAL RUNS. I SAID TO ____________: NOW LET'S SEE HOW WELL YOU CAN SAY NUMBERS. LISTEN. SAY 2 (Pause). NOW SAY 6.

THIS WAS JUST A WARMUP. NEXT I ASKED ____________ TO REPEAT SOME NUMBER SEQUENCE. FIRST, I ASKED HIM/HER TO SAY 5-8. (Present card with number sequence for item 1, but tell parent child was *not* shown card) DO YOU THINK ____________ CORRECTLY REPEATED THIS SEQUENCE OF 5-8?

(If parent predicts child could not repeat sequence, say:) I GAVE ____________ A SECOND CHANCE WITH 2 MORE NUMBERS: 4-9. (Show parent the card). DO YOU THINK ____________ CORRECTLY REPEATED THIS SEQUENCE OF 4-9?

Repeat procedure with items 2-6.

	Trial 1	Trial 2
2.	6-9-2	5-8-3
3.	3-8-1-4	6-1-8-5
4.	4-1-6-9-2	9-4-1-8-3
5.	5-2-9-6-1-4	8-5-2-9-4-6
6.	8-6-3-5-2-9-1	5-3-8-2-1-9-6

Score: 2 points for prediction of correct repetition on trial 1
1 point for prediction of correct repetition on trial 2

Maximum Score on Part I: 12

Part II: Backward Series

Procedure

NEXT I ASKED ____________ TO SAY SOME MORE NUMBERS, BUT BACKWARDS. THIS IS WHAT I SAID TO ____________: NOW I WANT YOU TO SAY MORE NUMBERS. THIS TIME I WANT YOU TO SAY THEM BACKWARDS. FOR EXAMPLE, IF I SAY 3-5, YOU WOULD SAY 5-3. DO YOU UNDERSTAND? WHAT DO YOU

SAY IF I SAY 3-5?

THIS WAS A WARMUP. THEN I ASKED_______________TO REPEAT SOME NUMBER SEQUENCE BACKWARDS. FIRST I ASKED HIM/HER TO SAY THESE NUMBERS BACKWARDS: 9-6. (Show parent the card) DO YOU THINK_____________CORRECTLY REPEATED THIS SEQUENCE BACKWARDS? THAT IS, DID HE/SHE SAY 6-9?

(If parent predicts child could not predict sequence backwards, say:) I GAVE________ A SECOND CHANCE WITH TWO MORE NUMBERS: 4-1. (Show parent the card). DO YOU THINK________ CORRECTLY REPEATED THIS SEQUENCE BACKWARDS? THAT IS DID HE/SHE SAY 1-4?

Repeat procedure with items 2-5.

	Trial 1	Trial 2
1.	9-6	4-1
2.	1-8-3	2-5-8
3.	5-2-4-9	6-1-8-3
4.	1-6-3-8-5	6-9-5-2-8
5.	4-9-6-2-1-5	3-8-1-6-2-9

Score: 2 points for predictions of correct repetition on trial 1
1 point for prediction of correct repetition on trial 2

Maximum score on Part II: 10

Subtest 15. Verbal Fluency

Materials

4 cards with examples of acceptable and non acceptable responses

Test Limits

Give the entire test to the parent

Procedure

NEXT, I ASKED__________TO NAME AS MANY THINGS THAT HE/SHE COULD IN A SHORT PERIOD OF TIME.

THE FIRST ACTIVITY HAD TO DO WITH "THINGS TO EAT." THIS IS WHAT I SAID TO__________: LET'S SEE HOW MANY DIFFERENT THINGS TO EAT YOU CAN THINK OF BEFORE I SAY STOP. YOU KNOW, LIKE BREAD AND POTATOES. READY, GO.

__________HAD 20 SECONDS TO NAME DIFFERENT THINGS TO EAT. HOW MANY THINGS TO EAT DO YOU THINK__________NAMED? HERE ARE EXAMPLES OF 2 GROUPS OF POSSIBLE ANSWERS. (Show parent 3x5 card and read the examples. Point to the first group and say:) HOW MANY DIFFERENT THINGS TO EAT LIKE THESE DID__________NAME, IF ANY? (Next, point to the second group and say:) HOW MANY DIFFERENT THINGS TO EAT LIKE THESE DID__________ NAME, IF ANY?

NEXT, I SAID TO__________: GOOD FOR YOU. NOW LET'S SEE HOW MANY DIFFERENT ANIMALS YOU CAN THINK OF BEFORE I SAY STOP. YOU KNOW, LIKE CAT AND BEAR. READY, GO. AS BEFORE, __________HAD 20 SECONDS TO NAME DIFFERENT KINDS OF ANIMALS. HOW MANY DIFFERENT ANIMALS DO YOU THINK__________NAMED FROM THE FIRST GROUP? AND THE SECOND GROUP? HERE ARE SOME EXAMPLES OF TWO GROUPS OF POSSIBLE ANSWERS. (Show parent the 3x5 card and read the examples. Repeat procedure as in "food").

AFTER THE ANIMAL ACTIVITY, I ASKED__________: NOW TELL ME ALL THE THINGS TO WEAR THAT YOU CAN THINK OF BEFORE I SAY STOP. YOU KNOW, LIKE SHOES. READY, GO. AGAIN, __________HAD 20 SECONDS TO ANSWER. HOW MANY DIFFERENT THINGS TO WEAR DO YOU THINK__________NAMED FROM THE FIRST GROUP? AND THE SECOND GROUP? HERE ARE SOME EXAMPLES OF TWO GROUPS OF POSSIBLE ANSWERS. (Show parent the 3x5 card and read the examples).

FINALLY, I SAID TO__________: NOW LET'S SEE HOW MANY DIFFERENT THINGS TO RIDE YOU CAN THINK OF BEFORE I SAY STOP. YOU KNOW, LIKE BUS. READY, GO. AS BEFORE, __________HAD 20 SECONDS TO ANSWER. HOW MANY DIFFERENT THINGS TO RIDE DO YOU THINK__________NAMED FROM THE FIRST GROUP? AND THE SECOND GROUP? HERE ARE SOME EXAMPLES OF THE TWO GROUPS OF POSSIBLE ANSWERS. (Show parent the 3x5 card and read the examples).

Score: 1 point for each predicted acceptable response up to a maximum of 9 for each item.

Maximum test score: 36

Subtest 16. Counting and Sorting

Materials

10 1-inch cubes
2 pieces of cardboard, each 5 x 8 inches

Test Limits

If parents predicted that child passed 9 or more items on number Questions (Test 5) give full credit (9 points) on counting and sorting. Otherwise, administer Counting and Sorting, beginning with item 1. Discontinue after predictions of 4 consecutive failures.

Procedures

(Place 8 blocks on the table in random order, between the parent and the examiner).

THE NEXT GROUP OF ACTIVITIES I DID WITH ____________ HAD TO DO WITH CONTINUING AND SORTING BLOCKS.

1. FOR THE FIRST ACTIVITY, I TOLD ______________: HERE ARE THE BLOCKS AGAIN. TAKE 2 OF THE BLOCKS AND PUT THEM HERE. (Point to a place near the parent but away from the rest of the blocks).

   DO YOU THINK ______________ TOOK 2 OF THE BLOCKS AND PUT THEM HERE? (Demonstrate to parent).

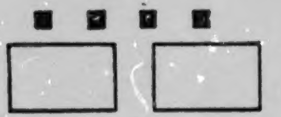
2. NEXT, I SAID TO ______________: NOW, TAKE 3 MORE BLOCKS.

   DO YOU THINK ______________ TOOK 3 MORE BLOCKS? (Demonstrate to parent).

3. AFTER THAT, I ASKED ______________: HOW MANY BLOCKS DO YOU HAVE?

   DO YOU THINK ______________ CORRECTLY ANSWERED "5"?

4. (Gather up the blocks. Place two pieces of cardboard in front of parent. Then place 4 blocks in a row, according to the following diagram, between the parent and cardboard).

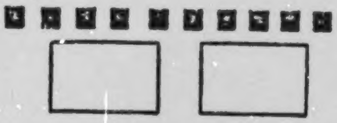


THEN, I SAID TO ______________: HERE ARE SOME BLOCKS (point) AND HERE ARE SOME CARDS. PUT ALL OF THESE BLOCKS ON THE CARDS. PUT SOME OF THESE BLOCKS ON THE CARD (point) AND THEN PUT THE SAME NUMBER ON THIS CARD (point). REMEMBER TO USE ALL THE BLOCKS? AND BE SURE TO PUT THE SAME NUMBER OF BLOCKS ON THIS CARD (point) AS ON THIS CARD (point).

DO YOU THINK ____________ CORRECTLY PLACED 2 BLOCKS ON EACH CARD? (Demonstrate to parent).

5. AFTER THIS, I ASKED ____________: HOW MANY BLOCKS ARE THERE ON EACH CARD?
DO YOU THINK ______________ CORRECTLY SAID "2"?

6. (After parent responds to the last question, place 10 blocks in a row, according to the following diagram, between the parent and the cards).



THEN, I SAID TO ______________: HERE ARE SOME MORE BLOCKS. PUT SOME OF THE BLOCKS ON THIS CARD (point) AND THEN PUT THE SAME NUMBER ON THIS CARD (point). USE ALL THE BLOCKS.
DO YOU THINK ______________ PUT 5 BLOCKS ON EACH CARD? (Demonstrate to parent).

7. NEXT, I ASKED ______________: HOW MANY BLOCKS ARE THERE ON EACH CARD?
DO YOU THINK ______________ CORRECTLY SAID "5"?

8. (Gather up the blocks and the 2 pieces of cardboard. Then place 8 blocks in a straight line leaving about 1/2 inch between blocks).
THEN, I POINTED BEYOND THE LAST BLOCK ON ____________ LEFT (demonstrate to parent) AND SAID: SHOW ME THE SECOND BLOCK FROM THIS END.
DO YOU THINK ____________ POINTED TO THE CORRECT BLOCK? (Demonstrate to parent).

9. THE LAST BLOCK ACTIVITY WAS THIS: I POINTED TO THE END OF THE LINE AT __________ RIGHT AND AS I DID I SAID: NOW SHOW ME THE FOURTH BLOCK FROM THIS END.
DO YOU THINK __________ POINTED TO THE CORRECT BLOCK? (Demonstrate to parent).

Score: 1 point for each correct response.

Maximum test score: 9

Subtest 17. Opposite Analogies

Materials

9 cards listing acceptable and non acceptable responses, one for each item

Test Limits

Begin with item 1 for all parents. If parent predicts child answered at least 1 of the first 2 items correctly, proceed with items 3-9 and discontinue after prediction of 3 consecutive failures on these items.

Procedure

For each item, give a slight vocal stress to the key word (printed in italics) but do not use gestures to illustrate the item content (e.g. avoid upward and downward motions for item 2).

1. THIS NEXT ACTIVITY DEALS WITH OPPOSITE MEANINGS. I READ A SENTENCE TO ____________ NAME AND ASKED HIM/HER TO FINISH IT WITH A WORD THAT MEANS JUST THE OPPOSITE OF WHAT I SAID.

   THIS IS HOW I STARTED. I SAID TO __________: I AM GOING TO SAY SOMETHING, AND I WANT TO SEE IF YOU CAN FINISH IT WITH A WORD THAT MEANS JUST THE OPPOSITE OF WHAT I SAY. LISTEN. THE SUN IS "*HOT*," AND ICE IS ____________ WHAT?

   HERE ARE EXAMPLES OF TWO GROUPS OF POSSIBLE ANSWERS. (Show parent 3x5 card and read the examples. Point to the card and say:) WHICH GROUP OF ANSWERS DO YOU THINK HAS THE KIND OF ANSWER ____________ GAVE?

2. NEXT, I SAID TO ____________: I THROW THE BALL "*UP*," AND THEN IT COMES __________.

   HERE ARE EXAMPLES OF TWO GROUPS OF POSSIBLE ANSWERS. (Show parent 3x5 card and read the examples. Point to the card and say:) WHICH GROUP OF ANSWERS DO YOU THINK HAS THE KIND OF ANSWER __________ GAVE?

3. THEN, I SAID TO ____________: AN ELEPHANT IS "*BIG*," AND A MOUSE IS ____________.

   HERE ARE EXAMPLES OF TWO GROUPS OF POSSIBLE ANSWERS. (Show parent 3x5 card and read the examples. Point to the card and say:) WHICH GROUP OF ANSWERS DO YOU THINK HAS THE KIND OF ANSWER __________ GAVE?

4. AFTER THIS, I SAID TO ____________: RUNNING IS "*FAST*," AND WALKING IS ____________.

   HERE ARE EXAMPLES OF TWO GROUPS OF POSSIBLE ANSWERS. (Show parent 3x5 card and read the examples. Point to the card and say:) WHICH GROUP OF ANSWERS DO YOU THINK HAS THE KIND OF ANSWER __________ GAVE?

5. NEXT, I TOLD ____________: COTTON IS "*SOFT*," AND ROCKS ARE ____________.

   HERE ARE EXAMPLES OF TWO GROUPS OF POSSIBLE ANSWERS. (Show parent 3x5 card and read the examples. Point to the card and say:) WHICH GROUP OF ANSWERS DO YOU THINK HAS THE KIND OF ANSWER __________ GAVE?

6. NEXT, I SAID TO ________________: A LEMON IS "SOUR," AND CANDY IS ___________.

HERE ARE EXAMPLES OF TWO GROUPS OF POSSIBLE ANSWERS. (Show parent 3x5 card and read the examples. Point to the card and say:) WHICH GROUP OF ANSWERS DO YOU THINK HAS THE KIND OF ANSWER __________ GAVE?

7. THEN, I SAID TO _______________: FEATHERS ARE "LIGHT," AND STONES ARE __________.

HERE ARE EXAMPLES OF TWO GROUPS OF POSSIBLE ANSWERS. (Show parent 3x5 card and read the examples. Point to the card and say:) WHICH GROUP OF ANSWERS DO YOU THINK HAS THE KIND OF ANSWER __________ GAVE?

8. NEXT, I TOLD ____________: SYRUP IS "THICK," AND WATER IS ______________.

HERE ARE EXAMPLES OF TWO GROUPS OF POSSIBLE ANSWERS. (Show parent 3x5 card and read the examples. Point to the card and say:) WHICH GROUP OF ANSWERS DO YOU THINK HAS THE KIND OF ANSWER __________ GAVE?

9. FINALLY, I SAID TO _______________: SANDPAPER IS "ROUGH," AND GLASS IS ___________.

HERE ARE EXAMPLES OF TWO GROUPS OF POSSIBLE ANSWERS. (Show parent 3x5 card and read the examples. Point to the card and say:) WHICH GROUP OF ANSWERS DO YOU THINK HAS THE KIND OF ANSWER _____________ GAVE?

Score: 1 point for each predicted correct response.

Maximum test score: 9

Subtest 18. Conceptual Grouping

Materials

Set of 12 blocks -- 6 squares and 6 circles, each shape provided in 3 colors (red, yellow, blue) and 2 sizes per color. Piece of cardboard, 5x8 inches.

Test Limits

Begin with item 1 for all parents. Discontinue after predictions of 4 consecutive failures.

Procedure

(Place the cardboard in front of parent. The long edge of the cardboard should be parallel to the edge of the table nearest the parent. Place the blocks on the table).

1. (PLace the 2 blue squares on the cardboard in this order: (from your left to right) little, big. Be sure the edges of the squares are parallel to the edges of the cardboard).

   I BEGAN BY SAYING TO ___________: SHOW ME THE LITTLE ONE. DO YOU THINK _______ POINTED TO THE LITTLE BLOCK? (Point to the little block).

   I THEN ASKED ___________: NOW FIND THE BIG ONE. DO YOU THINK ___________POINTED TO THE BIG BLOCK?

Score: 1 point for prediction of correct identification of both blocks.

Maximum item score: 1

2. Remove the 2 blue squares. Place the 3 small circles on the cardboard in this order (from your left to right): yellow, red, blue.

   I ASKED ___________: SHOW ME THE RED ONE. DO YOU THINK HE/SHE POINTED TO THIS ONE? (Point to red one).

   THEN, I SAID: NOW SHOW ME THE YELLOW ONE. DO YOU THINK HE/SHE POINTED TO THE YELLOW ONE? (Point to yellow one).

   AFTER THAT, I ASKED ___________: FIND THE BLUE ONE. DO YOU THINK HE/SHE POINTED TO THE BLUE ONE? (Point to the blue one).

Score: 1 point for each prediction of correct identification of all 3 colors.

Maximum item score: 1

3. (Remove the 3 small circles. Place the large red circle and square on the cardboard in this order (from your left to right): circle, square. Be sure that the edges of the square are parallel to the edges of the cardboard).

NEXT, I ASKED ____________: FIND THE SQUARE ONE. DO YOU THINK HE/SHE POINTED TO THE SQUARE ONE? (Point to square one).

THEN, I SAID: SHOW ME THE ROUND ONE. DO YOU THINK HE/SHE POINTED TO THE ROUND ONE? (Point to round one).

Score: 1 point for prediction of correct identification of both shapes.

Maximum item score: 1

4. (Scatter all of the 12 blocks randomly on the table, before the parent).

I PUT THESE BLOCKS IN FRONT OF __________, AND ASKED: NOW I HAVE SOME MORE TO SHOW YOU. SEE ALL OF THESE? FIND ALL THE SQUARE ONES AND PUT THEM RIGHT HERE ON THIS CARD. (Point).

THERE ARE 6 SQUARE BLOCKS. (Put 6 square blocks on card). HOW MANY OF THESE 6 BLOCKS, IF ANY, DO YOU THINK ______________ PUT ON THE CARD?

NOTICE THAT THERE ARE 6 BLOCKS LEFT THAT ARE NOT SQUARES. HOW MANY, IF ANY, OF THESE (point) DO YOU THINK __________ PUT ON THIS CARD (point) BY MISTAKE?

Score: Subtract the number of wrong choices from the number of right choices. Record negative values as 0. Then use the following system to obtain the child's score:

Right Minus Wrong	Score
6	2
5	1
0-4	0

Maximum item score: 2

5. (Rescramble all of the blocks).

NEXT, I ASKED _____________: NOW FIND ALL THE BIG YELLOW ONES AND PUT THEM ON THE CARD. REMEMBER, FIND ALL THE BIG YELLOW ONES.

THERE ARE 2 BIG YELLOW BLOCKS (Put them on the card). HOW MANY OF THESE TWO BIG YELLOW BLOCKS DO YOU THING ___________ PUT ON THE CARD?

NOTICE THAT THERE ARE 10 OTHER BLOCKS THAT ARE NOT BIG YELLOW BLOCKS. HOW MANY, IF ANY, OF THESE (point) DO YOU THINK ___________ PUT ON THIS CARD (point) BY MISTAKE?

Score: Subtract the number of wrong choices from the number of right choices. The child's score is the number of rights minus wrongs. If this results in a negative value, record it as 0.

Maximum item score: 2

6. (Rescramble all the blocks).

NEXT, I SAID TO______________: NOW SEE HOW MANY BIG ROUND RED ONES YOU CAN FIND. REMEMBER YOU'RE LOOKING FOR BIG RED ONES.

DO YOU THINK____________PICKED OUT JUST THE BIG ROUND RED BLOCK (pick it out) SINCE THIS IS THE ONLY BIG ROUND ONE, AND/OR DO YOU THINK HE/SHE PICKED OUT OTHER BLOCKS?

Score: 1 point if prediction is that the big round red block is the only one chosen.

Maximum item score: 1

7. (Place the small blue square and all of the large blocks except the large blue square (a total of 6 blocks) on the cardboard in a random fashion. Scramble remaining blocks and place on table).

NEXT, I ASKED___________: WHICH ONE ON THE CARD (point toward the card) DOES NOT GO WITH THE OTHER ONES ON THE CARD?

DO YOU THINK_____________PICKED OUT JUST THE SMALL BLUE SQUARE (pick it out) SINCE THIS IS THE ONLY BLOCK THAT IS SMALL AND/OR DO YOU THINK HE/SHE PICKED OUT OTHER BLOCKS?

Score: 1 point if the child selects only the small blue square

Maximum item score: 2

8. (Use the same blocks as for item 7, but remove the small blue square from the cardboard).

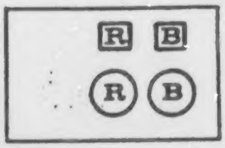
THEN, I SAID TO_____________: WHICH ONE HERE (point to the scrambled blocks) GOES BEST WITH THE ONES ON THE CARD? FIND IT AND PUT IT ON THE CARD.

DO YOU THINK_____________PICKED OUT JUST THE LARGE BLUE SQUARE (pick it out) SINCE THIS IS THE ONLY BLOCK THAT IS BIG AND GOES BEST WITH THESE OTHER BIG ONES (point to card) AND/OR DO YOU THINK HE/SHE PICKED OUT OTHER BLOCKS?

Score: 1 point if the child selects only the large blue square.

Maximum item score: 1

9. (Remove the blocks from the cardboard. Arrange the large red and blue circles and the small red and blue squares on the cardboard as shown in Child Manual (p.138). Scramble the other blocks and place them near the parent).



NEXT WAS THE LAST ACTIVITY. FOR THIS ACTIVITY, I SAID TO____________: WHICH TWO FROM HERE (point to the scrambled blocks) GO BEST WITH THE ONES ON THE CARD. FIND BOTH OF THEM AND PUT THEM ON THE CARD.

DO YOU THINK______________PICKED UP THE LARGE YELLOW CIRCLE (pick it up and place on card next to other 2 circles) SINCE THIS BLOCK GOES BEST WITH THESE TWO OTHER LARGE CIRCLES AND/OR DO YOU THINK HE/SHE PICKED UP ANOTHER BLOCK OR BLOCKS?

DO YOU THINK________________PICKED UP THE SMALL YELLOW SQUARE (pick it up and place it on card next to other 2 squares) SINCE THIS BLOCK GOES BEST WITH THE OTHER BLOCKS ON THE CARD AND/OR DO YOU THINK HE/SHE PICKED UP ANOTHER BLOCK OR BLOCKS?

Score: 2 points if the parent predicts child selected both correct blocks (large yellow circle and small yellow square)

1 point if the parent predicts 1 correct block and 1 incorrect block, or no other blocks

0 points if the parent predicts child selected more than 2 blocks (even if the 2 correct blocks are included), or if parent selects 2 incorrect blocks.

Maximum item score: 2

APPENDIX 3b

Maternal Version of the MSCA--Spanish

Instructions to Examiner:

The two major points to keep in mind while you are administering the MSCA to the parent are: (1) you are not testing the parent. You are simply assessing how well the parent thinks her child did. Therefore, try to make the experience for the parent non-threatening, enjoyable, and of course--interesting. If the parent appears to be reluctant to state how well she thought her child did, try to get her to give her closest opinion; (2) because the mother's perceived scores will be correlated to her child's actual scores, it is important to administer the test in the same fashion--as closely as possible--to the actual testing of the child. Therefore, it is vital you simulate the testing situation as close as possible.

Because it is crucial that all mothers have the same understanding of the nature of the home administration of the MSCA, please state the following introductory remarks to each mother after you introduce yourself and explain why you are there:

EL ____________ DE 1979, HACE ________ MESES (give parent exact date of testing), YO VISITE LA ESCUELA DE ____________ Y LO(LA) EXAMINE PARA VER LO BIEN QUE ESTA APRENDIENDO ALGUNAS DE LAS DESTREZAS BASICAS, POR EJEMPLO, RECONOCIMIENTO DE COLORES, CONTAR Y DEMAS.

OTRAS TRES MUJERES Y YO EXAMINAMOS A TODOS LOS NIÑOS. EN TOTAL FUERON 350 NIÑOS Y NIÑAS MEXICANO-AMERICANOS.

AL TERMINAR ESTA VISITA, VOY A REPASAR LOS RESULTADOS DE ____________ EN COMPARACION CON LOS OTROS NIÑOS Y NIÑAS DE LA MISMA EDAD. PERO ANTES QUISIERA REPASAR CADA SECCION DEL EXAMEN PARA QUE USTED VEA LA FORMA EN QUE ____________ FUE EXAMINADO(A).

CUANDO REPASEMOS EL EXAMEN, QUE TARDARA MAS O MENOS HORA Y MEDIA, QUISIERA PREGUNTARLE COMO ES QUE USTED PIENSA QUE ______________ HIZO EN CADA ACTIVIDAD. SI NO ESTA SEGURA DE LO BIEN QUE HIZO ______________, POR FAVOR DEME LA RESPUESTA MAS APROPIADA. ¿TIENE ALGUNA PREGUNTA? BUENO, COMENCEMOS.

Modified McCarthy Maternal Interview

Directions for Administration and Scoring

Subtest 1. Construyendo con Bloques

Materials

12 1 - inch cubes

Test Limits

For parents of children below 5 years of age, begin with item 1.

For parents of children who are 5 years and above, begin with item 3. If parents predict that the child will pass item 3 with a score of 2 (full credit for Building), give full credit for items 1 and 2 (5 points); otherwise, administer items 1 and 2 before continuing with item 4. Discontinue after parent predicts failure on 2 consecutive items.

Procedure

1. Tower. Place the 12 blocks on the table and build a block tower. PARA ESTA ACTIVIDAD SE LE DIJO A ______________: ¿VES ESTOS BLOQUES CON LOS QUE PODEMOS JUGAR? MIRA. VOY A HACER UNA TORRE ALTA. VAMOS A VER SI TU PUEDES HACER UNA IGUAL AQUI. (Point ot the space between the tower and the mother) ¿QUE TAN ALTA PIENSA UD. QUE ______________ HIZO LA TORRE? (Build the second tower with 2nd set of blocks. After the tower is built say:) ¿PIENSA UD. QUE ______________ HIZO LA TORRE HASTA AQUI (6th block) HASTA AQUI (5th block) HASTA AQUI (4th block) HASTA AQUI (3rd block) HASTA AQUI (2nd block) O HASTA AQUI (last block)? (After removing the second tower say:) MIRE EL MODELO Y APUNTE HASTA QUE ALTURA PIENSA UD. QUE ______________ HIZO LA TORRE. NO IMPORTA SI EL/ELLA HIZO LA TORRE UN POCO TORCIDA/CHUECA.

(Only for the parents who predicted the child would not build the entire tower say:) ______________ TUVO OTRA OPORTUNIDAD MAS ¿COMO PIENSA UD. QUE HIZO LA TORRE?

Then scramble the blocks.

Score: 3 points for a predicted tower of 6 blocks.
2 points for a predicted tower of 4 or 5 blocks.
1 point for a predicted tower of 2 or 3 blocks.

Maximum Item Score: 3

2. Chair. LUEGO LE DIJE A________________: AHORA VAMOS A VER SI PUEDES HACER UNA SILLA BONITA COMO ESTA. (In front of the parent, place 2 blocks touching side by side. Then place a third block on top of the one on the parent's right, making a "chair" in profile view facing toward the parent's left). LUEGO LE DIJE A__________________: ¿VES ESTA SILLA QUE YO HICE? HAZ TU UNA IGUAL A ESTA. (Point to the space between the chair and the mother). ¿QUE TAN BIEN PIENSA UD. QUE________________HIZO LA SILLA? ¿PIENSA QUE ______________HIZO LA SILLA ENTERA ASI? ¿ O QUE UNICAMENTE USO ESTOS DOS BLOQUES (remove the bottom right block); O QUE_________________UNICAMENTE USO ESTOS DOS BLOQUES (replace bottom right block and replace top block); ¿O QUE___________________HIZO ALGO DIFERENTE DE LO QUE LE HE MOSTRADO A UD.?

(Only for those parents who predicted the child could not build the entire chair, and whose children required a second trial to complete the task, say:) _____________ TUVO OTRA OPORTUNIDAD MAS PARA HACER UNA SILLA. ¿QUE TAN BIEN PIENSA UD. QUE _____________________HIZO?

Then scramble all the blocks.

Score: 1 point for predicted correct placement of 2 blocks, either horizontally or vertically.
1 point for predicted correct placement of the third block.

Maximum item score: 2

3. Building. LUEGO DIJE: VAMOS A HACER UN EDIFICIO COMO ESTE. (Place 4 blocks in a row touching each other on the sides. Place a fifth block on the second block on your left.) LUEGO DIJE ¿VES MI EDIFICIO? HAZ TU UNO COMO ESTE AQUI. (point). ¿PIENSA UD. QUE________________HIZO UN EDIFICIO IGUAL QUE EL MIO? O QUE____________ UNICAMENTE USÓ ESTOS 4 BLOQUES. (remove top block).
O QUE TAMBIÉN PUSO ESTE BLOQUE AQUI ARRIBA (replace top block) Y ABAJO USÓ BLOQUES DE MAS, POR EJEMPLO UN QUINTO BLOQUE (place 5th block). ¿O QUE____________________ HIZO ALGO DIFERENTE A LO QUE LE HE MOSTRADO A UD.?

Then scramble the blocks.

Score: 1 point for predicted correct base of 4 blocks.
1 point for predicted correct placement of top block. (even if the base contains an incorrect number of blocks).

Maximum item score: 2

4. House. LUEGO DIJE: AHORA VAMOS A VER SI PUEDES HACER UNA CASA BONITA COMO ESTA. VES, ESTOY HACIENDO LAS PAREDES ASI. (place 4 blocks in a square with the two of the blocks pushed slightly to the center to support the top block). LUEGO LE DIJE A________________: Y DESPUES LE PONGO EL TECHO ASI. (place a fifth block over the center space).
¿PIENSA UD. QUE______________HIZO UNA CASA COMO LA MIA (build a house) O PIENSA UD. QUE____________________UNICAMENTE HIZO LA BASE? (take top block off home to show the base). O PIENSA UD. QUE______________HIZO LA BASE USANDO EL NUMERO CORRECTO DE BLOQUES--4--PERO LOS COLOCO DISPAREJOS (Demonstrate). O PIENSA QUE ________________HIZO UNA CASA CON UNA BASE DE 4 BLOQUES Y CON UN TECHO (Demonstrate). ¿ O PIENSA UD. QUE____________HIZO ALGO DIFERENTE DE LO QUE LE HE MOSTRADO A UD.?

(Only for those parents who predicted the child could not build the entire house, and whose children required a second trial to complete the task, say:) ___________ TUVO OTRA OPORTUNIDAD MAS PARA HACER UNA CASA. ¿QUE TAN BIEN PIENSA UD. QUE ____________________LA HIZO?

Score: 2 points for prediction of correct base.
1 point for prediction of correct placement of top block.
1 point for 4 block base, but with irregular arrangement.

Maximum item score: 3

Maximum test score: 10

Subtest 2. Resolviendo Rompecabezas

Materials

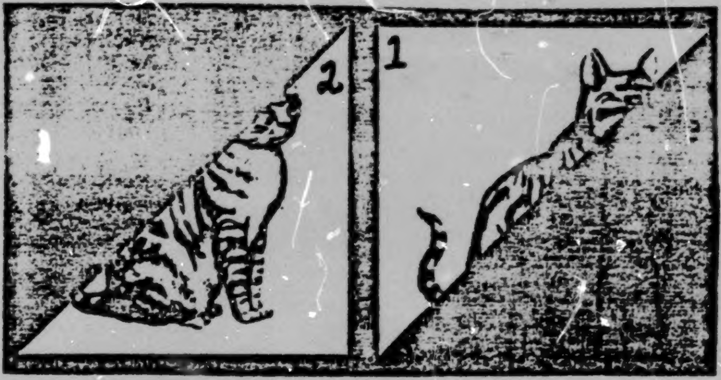
6 puzzles

Test Limits

For parents of children below 5 years of age, begin with item 1.

For parents of children who are 5 and above, begin with item 3. If parents predict that the child will pass item 3 with a score of 2 (maximum score) give full credit for items 1 and 2 (2 points); otherwise administer items 1 and 2 before continuing with item 4. Discontinue after predictions of 3 consecutive failures.

1. Cat. (Place the 2 pieces on the table before the parent in the position shown below):



MOTHER EXAMINER

EL SIGUIENTE GRUPO DE ACTIVIDADES QUE HICIMOS________________Y YO FUE RESOLVER ROMPECABEZAS. PARA EL PRIMER ROMPECABEZAS LE DIJE A_______________: VAMOS A VER SI PUEDES JUNTAR ESTOS DOS PEDAZOS Y HACER UN GATO.

__________________TUVO 30 SEGUNDOS PARA TRATAR DE JUNTAR EL ROMPECABEZAS. ¿PIENSA UD. QUE______________NO PUDO JUNTAR NINGUNO DE LOS PEDAZOS?

2 - 1 (Demonstrate a few random attempts and simultaneously say):

AQUI HAY ALGUNOS EJEMPLOS DEL ROMPECABEZAS INCOMPLETO.¿ O PIENSA UD. QUE____________ COMPLETO EL ROMPECABEZAS DE LA SIGUIENTE MANERA?

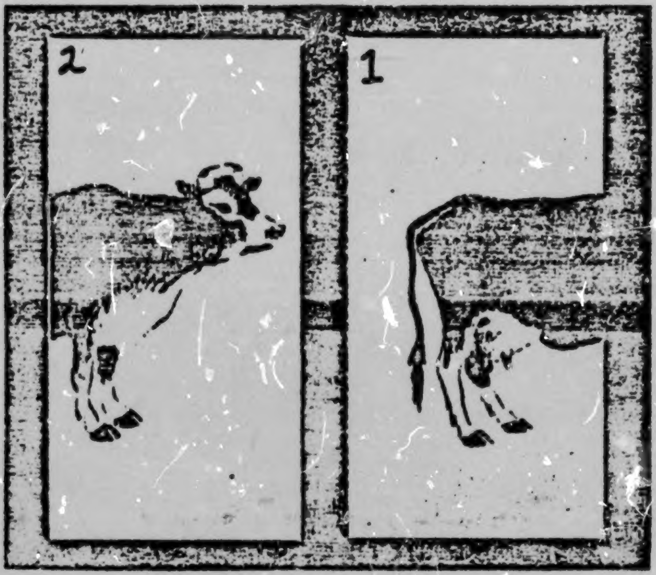
1 - 2 (Demonstrate)

Score: 1 point if parent predicts child will succeed.

0 points if parent predicts child will not succeed.

Maximum item score: 1

2. Cow. (Place the 2 pieces on the table before the parent in the position shown below):



MOTHER EXAMINER

PARA EL ROMPECABEZAS SIGUIENTE LE DIJE A__________: AHORA JUNTA ESTOS DOS PEDAZOS Y HAZ UNA VACA.

__________________TUVO 30 SEGUNDOS PARA TRATAR DE JUNTAR EL ROMPECABEZAS.¿PIENSA UD. QUE____________NO PUDO JUNTAR NINGUNO DE LOS PEDAZOS?

2 - 1 (Demonstrate a few random attempts and simultaneously say):

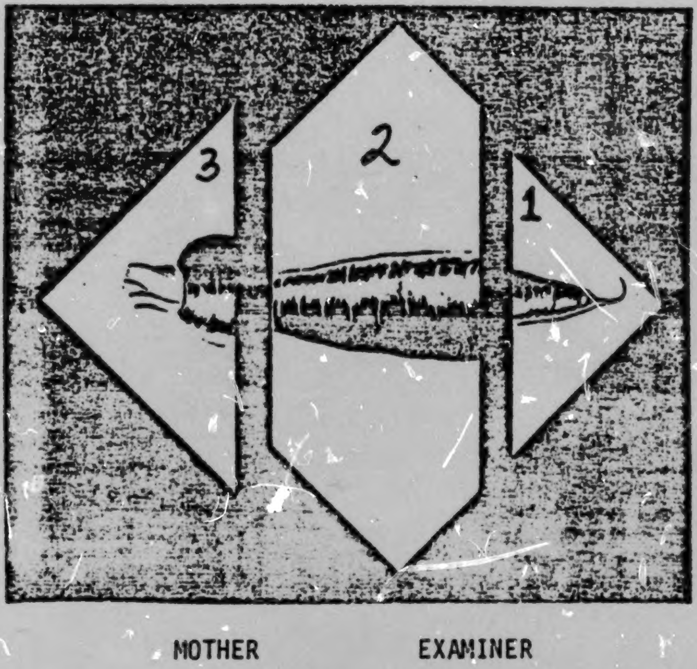
AQUI HAY ALGUNOS EJEMPLOS DEL ROMPECABEZAS INCOMPLETO.¿ O PIENSA UD. QUE__________ COMPLETO EL ROMPECABEZAS DE LA SIGUIENTE MANERA?

1 - 2 (Demonstrate)

Score: 1 point if parent predicts child will succeed.
0 points if parent predicts child will not succeed.

Maximum item score: 1

3. Carrot. (Place the 3 pieces on the table before the parent in the position shown below):



LUEGO LE DIJE A________________: AHORA PON ESTOS PEDAZOS JUNTOS Y HAZ UNA ZANAHORIA. ____________________ TUVO 30 SEGUNDOS PARA TRATAR DE JUNTAR EL ROMPECABEZAS. ¿PIENSA UD. QUE______________NO PUDO JUNTAR NINGUNO DE LOS PEDAZOS?

3 - 2 - 1 (Demonstrate by pushing the parts together and simultaneously say):

HAY MUCHAS MANERAS DE NO JUNTAR EL ROMPECABEZAS. AQUI HAY UD. QUE______________COMPLETO EL ROMPECABEZAS ASI?

1 - 2 - 3 (Demonstrate)

O, PIENSA UD. QUE________________COMPLETO SOLO PARTE DEL ROMPECABEZAS? UN EJEMPLO DE COMO PONER LAS PARTES DEL ROMPECABEZAS JUNTAS, ES ASI:

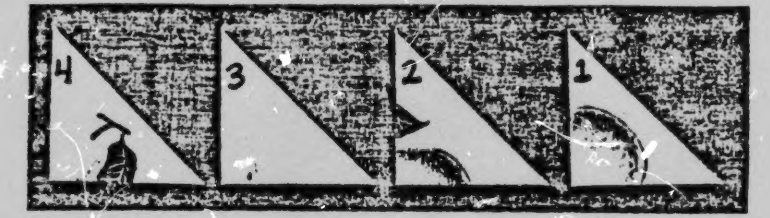
2 - 3 (Demonstrate)

(Finally say to parent): O.K. ¿PIENSA UD. QUE_____________ NO JUNTO LAS PARTES DEL ROMPECABEZAS PARA NADA, QUE COMPLETO EL ROMPECABEZAS, O QUE SOLO COMPLETO PARTE DEL ROMPECABEZAS?

Score: 1 point for each cut parent correctly predicts child joined.

Maximum item score: 2 points

4. Pear. (Place the 4 pieces on the table before the parent in the position shown below):



LUEGO LE DIJE A______________: AHORA VAMOS A JUNTAR ESTOS Y HACER UNA PERA JUGOSA. _____________TUVO 60 SEGUNDOS PARA TRATAR DE JUNTAR EL ROMPECABEZAS. ¿PIENSA UD. QUE____________NO PUDO JUNTAR NINGUNO DE LOS PEDAZOS?

4 - 3 - 2 - 1 (Demonstrate. Say):

AQUI HAY EJEMPLO DE COMO NO COMPLETAR EL ROMPECABEZAS. O ¿PIENSA UD. QUE___________ COMPLETO EL ROMPECABEZAS ASI?

4 - 2 - 1 - 3 . clockwise (Demonstrate)

O ¿PIENSA QUE COMPLETO SOLO PARTE DEL ROMPECABEZAS? PERMITAME MOSTRARLE DOS EJEMPLOS DE COMO COMPLETAR EL ROMPECABEZAS. UN EJEMPLO ES EL SIGUIENTE:

4 - 2 - 1, clockwise (Demonstrate)

OTRO EJEMPLO ES EL SIGUIENTE:

4 - 2, clockwise (Demonstrate)

(After this final demonstration, put puzzle parts back in 4 - 2 - 1 - 3 position and say): O.K. ,¿PIENSA UD. QUE______________JUNTO TODAS LAS PARTES DEL ROMPECABEZAS ASI?:

4 - 2 - 1 - 3 (Demonstrate)

O, PIENSA UD. QUE_____________NO COMPLETO EL ROMPECABEZAS PARA NADA, O PIENSA UD QUE JUNTO PARTES DEL ROMPECABEZAS?

(If parent says full completion, ask): ¿PIENSA UD. QUE____________COMPLETO EL ROMPECABEZAS EN EXACTAMENTE 20 SEGUNDOS O MENOS?

(If parent says a no completion, stop and record score. If parent says part completion, run through partial demonstration again):

(Demonstrate. Say): AQUI HAY EJEMPLO DE COMO NO COMPLETAR EL ROMPECABEZAS. O ¿PIENSA UD. QUE__________COMPLETO EL ROMPECABEZAS ASI?

6 - 3

4 - 1

2 - 5 (Demonstrate)

O, ¿PIENSA UD. QUE____________COMPLETO UNA PARTE DEL ROMPECABEZAS? PERMITAME MOSTRARLE 5 EJEMPLOS DE PARTES COMPLETAS DEL ROMPECABEZAS. UN EJEMPLO ES EL SIGUIENTE:

6 - 3

4 - 1

2 (Demonstrate)

AQUI ESTA EL SEGUNDO EJEMPLO:

6 - 3

4

2 - 5 (Demonstrate)

EL TERCER EJEMPLO ES:

6 - 3

4

2 (Demonstrate)

SIGUE EL CUARTO EJEMPLO:

6

4

2 (Demonstrate)

FINALMENTE, UN QUINTO EJEMPLO ES:

6

4 (Demonstrate)

(After this final demonstration, put puzzle parts back in the

6 - 3

4 - 1

2 - 5 position and say):

O.K., ¿PIENSA UD. QUE____________JUNTO EL ROMPECABEZAS COMPLETAMENTE ASI?

6 - 3

4 - 1

2 - 5 (Demonstrate)

4 - 2 - 1, clockwise (Demonstrate)

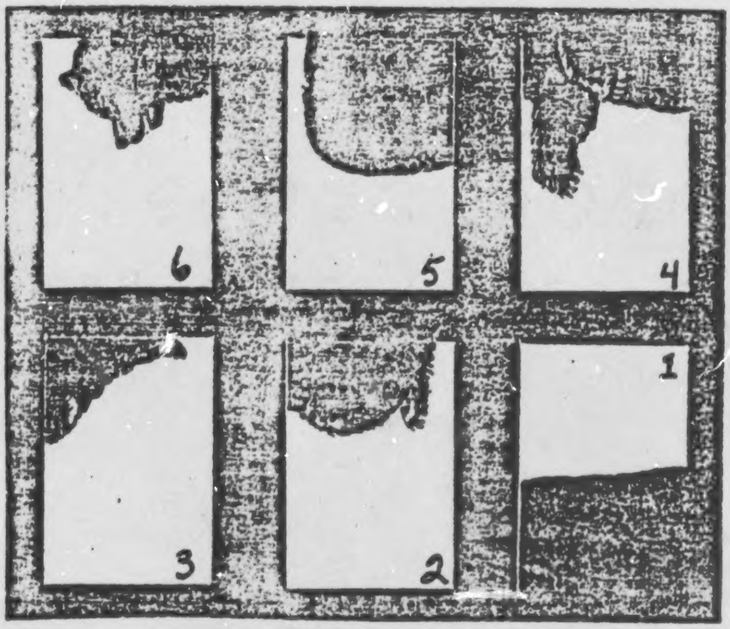
and

4 - 2, clockwise (Demonstrate)

Score: 1 point for each cut parent correctly predicts child joined.
Give 1 bonus point if the child completes the puzzle perfectly in 20 seconds or less.

Maximum item score: 5 (4 cuts, plus 1 possible bonus point for speed)

5. Bear. (Place the 6 pieces on the table before the parent in the position as shown below):



MOTHER EXAMINER

PARA EL SIGUIENTE ROMPECABEZAS, LE DIJE A___________: AHORA VAMOS A VER SI PUEDES JUNTAR TODOS ESTOS PEDAZOS Y HACER UN OSO.

________________TUVO 90 SEGUNDOS PARA TRATAR DE JUNTAR EL ROMPECABEZAS. ¿PIENSA UD. QUE_______________ NO JUNTO LOS PEDAZOS PARA NADA?

6 - 5 - 4
3 - 2 - 1
(left to right)

O, ¿PIENSA UD. QUE______________NO COMPLETO EL ROMPECABEZAS PARA NADA? O, ¿PIENSA UD. QUE____________JUNTO SOLO PARTE DEL ROMPECABEZAS?

(If parent says full completion, ask): ¿PIENSA UD. QUE___________COMPLETO EL ROMPECABEZAS EN EXACTAMENTE 45 SEGUNDOS O MENOS? (If parent says yes, ask): ¿PIENSA UD. QUE_______________COMPLETO EL ROMPECABEZAS PERFECTAMENTE EN 30 SEGUNDOS O MENOS? (If parent says no completion, stop and record. If parent says part completion, run through partial demonstration again):

6 - 3
4 - 1
2 (Demonstrate)
and

6 - 3
4
2 - 5 (Demonstrate)

and

6 - 3
4
2 (Demonstrate)

and

6
4
2 (Demonstrate)

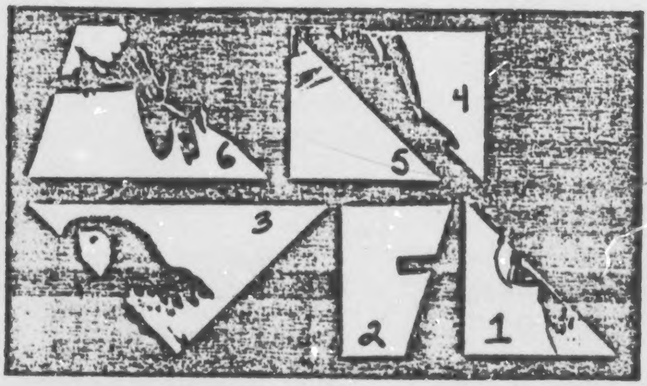
and

6
4 (Demonstrate)

Score: 1 point for each cut parent correctly predicts child joined.
Give 2 bonus points if the parent predicts child completes the puzzle perfectly in 30 seconds or less.
Give 1 bonus point if the parent predicts child completes the puzzle perfectly in 31-45 seconds.

Maximum item score: 9 (7 cuts, plus 2 possible bonus points for speed).

6. Bird. (Place the 6 pieces on the table before the parent in the position as shown below):



MOTHER EXAMINER

PARA EL ULTIMO ROMPECABEZAS, LE DIJE A______________: AHORA VAMOS A JUNTAR ESTOS Y HACER UN PAJARO.

____________________TUVO 120 SEGUNDOS PARA TRATAR DE JUNTAR LOS PEDAZOS DEL ROMPECABEZAS. ¿PIENSA UD. QUE_______________NO JUNTO LOS PEDAZOS PARA NADA?

6 - 5 - 4
3 - 2 - 1 (Demonstrate. Say):

AQUI HAY UN EJEMPLO DE COMO NO COMPLETAR EL ROMPECABEZAS. O ¿PIENSA UD. QUE __________________COMPLETO EL ROMPECABEZAS ASI?

1 - 3 - 5
2 - 6 - 4 (Demonstrate)

O, ¿PIENSA UD. QUE____________COMPLETO PARTE DEL ROMPECABEZAS? PERMITAME MOSTRARLE 5 EJEMPLOS DE PARTES COMPLETAS DEL ROMPECABEZAS. UN EJEMPLO ES EL SIGUIENTE:

1 - 3 - 5
2 - 6 (Demonstrate)

AQUI ESTA EL SEGUNDO EJEMPLO:

1 - 3
2 - 6 (Demonstrate)

EL TERCER EJEMPLO ES:

1 - 3 - 5
2 (Demonstrate)

SIGUE EL CUARTO EJEMPLO:

1 - 3 - 5 (Demonstrate)

FINALMENTE, EL QUINTO EJEMPLO ES:

1 - 3 (Demonstrate)

(After this final demonstration, put puzzle parts back in the

1 - 3 - 5
2 - 6 - 4 position and say):

O.K., ¿PIENSA UD. QUE__________JUNTO EL ROMPECABEZAS COMPLETAMENTE, ASI?

1 - 3 - 5
2 - 6 - 4 (Demonstrate)

O, ¿PIENSA UD. QUE____________NO COMPLETO EL ROMPECABEZAS PARA NADA? O, ¿PIENSA UD. QUE______________COMPLETO PARTE DEL ROMPECABEZAS?

(If parents say full completion, ask): UD. PIENSA QUE___________COMPLETO EL ROMPECABEZAS PERFECTAMENTE EN 60 SEGUNDOS O MENOS? (If parent says yes, ask): ¿PIENSA QUE_____________COMPLETO EL ROMPECABEZAS PERFECTAMENTE EN 30 SEGUNDOS O MENOS? (If parent says part completion, run through partial demonstration again):

1 - 3 - 5
2 - 6 (Demonstrate)
and,

1 - 3
2 - 6 (Demonstrate)
and,

1 - 3 - 5
2 (Demonstrate)
and,

1 - 3 - 5 (Demonstrate)
and,

1 - 3 (Demonstrate)

Score: 1 point for each cut parent correctly predicts child joined.
Give 2 bonus points if the parent predicts child completed the puzzle perfectly in 30 seconds or less.
Give 1 bonus point if the parent predicts the child completed the puzzle perfectly in 60 seconds or less.

Subtest 3. Memoria Pictográfica

Materials

1 pictorial memory card (in the Card Book)

Test Limits

Give test to all parents.

Procedure

DESPUES DE LOS ROMPECABEZAS, LE DIJE A____________: TE VOY A ENSEÑAR UNOS RETRATOS DE COSAS. DESPUES LOS QUITO PARA VER DE CUANTAS COSAS TE RECUERDAS. AQUI ESTAN. (Open the Card Book to the Pictorial Memory Card and place it on the table in front of parent.)

EN SEGUIDA LE DIJE A____________: MIRA CON CUIDADO. TENEMOS UN BOTON, UN TENEDOR, UN PAPER-CLIP, UN CABALLO, UN CANDADO Y UN LAPIZ.

____________________TUVO 10 SEGUNDOS PARA VER LOS RETRATOS. DESPUES DE 15 SEGUNDOS YO DIJE: AHORA DIME LO QUE VISTE. ________________TUVO 90 SEGUNDOS PARA CONTESTAR. ¿DE CUANTAS COSAS PIENSA UD. QUE______________SE RECORDO? (Open booklet and keep in front of parent for inspection).

Score: 1 point for prediction of each object correctly recalled.

Maximum test score: 6

Subtest 4. Conocimiento de Palabras

Materials

5 picture vocabulary cards

7 cards for Part 2 with acceptable 1 and 2 answers and nonacceptable answers.

Test Limits

For parents of children below 5 years of age begin with Part I. Administer Part II only if parent predicts that child received at least 6 points on Part I.

For parents of children who are 5 and above, begin with Part II. If parent predicts child scored above 0 on both items 1 and item 2 in Part II, give full credit for Part I (9 points). Otherwise, complete administration of Part II and then administer Part I.

Discontinue testing if parent predicts child received less than 6 points on Part I. Discontinue testing on Part II after predictions of 4 consecutive failures on that part.

Procedure

Part I. Vocabulario de Ilustraciones

Card 1. Turn to Picture Vocabulary Card 1 in the Card Book and place it on the table in front of parent.

LUEGO LE MOSTRE ESTA TARJETA A______________(Demonstrate to parent) LE DIJE A ______________: ENSEÑAME LA MANZANA.

¿PIENSA UD. QUE______________ME MOSTRO LA MANZANA?

¿PIENSA UD. QUE______________ME MOSTRO EL ARBOL?

CUANDO LE PEDI A____________ ENSEÑAME LA CASA. ¿PIENSA UD. QUE________________ME MOSTRO LA CASA?

¿QUE TAL LA MUJER? ¿PIENSA UD. QUE______________ME MOSTRO LA MUJER?

FINALMENTE, CUANDO LE PEDI A______________: MUESTRAME LA VACA. ¿PIENSA UD. QUE ________________ME MOSTRO LA VACA?

Cards 2-5. Present cards 2-5 at a time.

LUEGO LE MOSTRE 4 TARJETAS A_____________, UNA POR UNA Y LE PREGUNTE: ¿QUE ES ESTO?

CUANDO LE PEDI A_____________QUE ME DIJERA QUE ES ESTO (Show parent picture of clock) ¿PIENSA UD. QUE______________ME CONTESTO CORRECTAMENTE? LAS RESPUESTAS ACEPTABLES FUERON COSAS COMO RELOJ DE PARED O DE PUÑO, O TIC TOC.

CUANDO LE PEDI A______________QUE ME DIJERA QUE ES ESTO (Show mother picture of sailboat), ¿PIENSA UD. QUE___________ME CONTESTO CORRECTAMENTE? LAS RESPUESTAS ACEPTABLES FUERON COSAS COMO BARCO DE VELA, O BARCO.

CUANDO LE PEDI A________________QUE ME DIJERA QUE ES ESTO (Show mother picture of flower), ¿PIENSA UD. QUE________________ME CONTESTO CORRECTAMENTE? LAS RESPUESTAS ACEPTABLES FUERON COSAS COMO FLOR, O EL NOMBRE DE CIERTA FLOR POR EJEMPLO ROSA O MARGARITA.

CUANDO LE PEDI A________________QUE ME DIJERA QUE ES ESTO (Show mother picture of purse), ¿PIENSA UD. QUE______________ME CONTESTO CORRECTAMENTE? RESPUESTAS ACEPTABLES FUERON BOLSO, BOLSA, O BOLSA DE MANO.

Score: 1 point for prediction of each correct response.

Maximum score on Card 1: 5

Maximum score on Cards 2-5: 4

Maximum score on Part I: 9

Part II. Vocabulario Oral

Procedure

"LE DIJE A_______________: AHORA TE VOY A PREGUNTAR SOBRE ALGUNAS PALABRAS. ALGUNAS SON FACILES Y OTRAS SON DURAS, PERO QUIERO QUE ME DIGAS TODAS LAS QUE TU SABES.

PRIMERO LE PREGUNTE A____________: ¿QUE ES UNA TOALLA? ¿QUE PIENSA UD. QUE________ CONTESTO? LOS NIÑOS DE ESCUELA PRE-PRIMARIA POR LO GENERAL DAN RESPUESTAS DISTINTAS CUANDO SE LES PIDE QUE EXPLIQUEN PALABRAS. AQUI TIENE UD. ALGUNAS DE LAS POSIBLES RESPUESTAS QUE LOS NIÑOS PUEDEN DAR (Show the mothers the 5x7 cards). TOME NOTA DE QUE HAY TRES (3) GRUPOS DE POSIBLES RESPUESTAS CON DOS (2) EJEMPLOS EN CADA GRUPO. ¿CUAL DE ESTOS GRUPOS PIENSA UD. QUE TIENE LA CLASE DE RESPUESTAS QUE_______________DIO CUANDO LE PREGUNTE: QUE ES UNA TOALLA?

A CONTINUACION LE PREGUNTE A_____________: ¿QUE ES UN ABRIGO? ¿QUE PIENSA UD. QUE______________CONTESTO? (Show mother next 5x7 card and ask:) ¿CUAL DE ESTOS GRUPOS PIENSA UD. QUE TIENE LA CLASE DE RESPUESTAS QUE_____________DIO CUANDO LE PREGUNTE: QUE ES UN ABRIGO?

LUEGO LE PREGUNTE A______________: ¿QUE ES UN FIERRO/UNA HERRAMIENTA? ¿QUE PIENSA UD. QUE_____________CONTESTO? (Show mother 5x7 card and ask:) ¿CUAL DE ESTOS GRUPOS PIENSA UD. QUE TIENE LA CLASE DE RESPUESTAS QUE______________DIO CUANDO LE PREGUNTE: QUE ES UN FIERRO/UNA HERRAMIENTA?

DESPUES LE PREGUNTE A______________: ¿QUE ES HILO? ¿QUE PIENSA UD. QUE___________ CONTESTO? (Show mother 5x7 card and ask:) ¿CUAL DE ESTOS GRUPOS PIENSA UD. QUE TIENE LA CLASE DE RESPUESTAS QUE______________DIO CUANDO LE PREGUNTE: QUE ES HILO?

LUEGO LE PREGUNTE A____________: ¿QUE ES UNA FABRICA? ¿QUE PIENSA UD. QUE ________________CONTESTO? (Show mother 5x7 card and ask:) ¿CUAL DE ESTOS GRUPOS PIENSA UD. QUE TIENE LA CLASE DE RESPUESTAS QUE____________DIO CUANDO LE PREGUNTE: QUE ES UNA FABRICA?

A CONTINUACION LE PREGUNTE A______________: ¿QUE ES ENCOGER? ¿QUE PIENSA UD. QUE____________CONTESTO? (Show mother 5x7 card and ask:) ¿CUAL DE ESTOS GRUPOS PIENSA UD. QUE TIENE LA CLASE DE RESPUESTAS QUE_____________DIO CUANDO LE PREGUNTE: QUE ES ENCOGER?

LUEGO LE PREGUNTE A_____________: ¿QUE ES UN EXPERTO? ¿QUE PIENSA UD. QUE ____________CONTESTO? (Show mother 5x7 card and ask:) ¿CUAL DE ESTOS GRUPOS PIENSA UD. QUE TIENE LA CLASE DE RESPUESTAS QUE___________DIO CUANDO LE PREGUNTE: QUE ES UN EXPERTO?

DESPUES LE PREGUNTE A_____________: ¿QUE ES UN MES? ¿QUE PIENSA UD. QUE ______________CONTESTO? (Show mother 5x7 card and ask:) ¿CUAL DE ESTOS GRUPOS PIENSA UD. QUE TIENE LA CLASE DE RESPUESTAS QUE______________DIO CUANDO LE PREGUNTE: QUE ES UN MES?

LUEGO LE PREGUNTE A_____________: ¿QUE ES UN CONCIERTO? ¿QUE PIENSA UD. QUE ______________CONTESTO? (Show mother 5x7 card and ask:) ¿CUAL DE ESTOS GRUPOS PIENSA UD. QUE TIENE LA CLASE DE RESPUESTAS QUE___________DIO CUANDO LE PREGUNTE: QUE ES UN CONCIERTO?

DESPUES LE PREGUNTE A_____________: ¿QUE ES FIEL? ¿QUE PIENSA UD. QUE_______ CONTESTO? (Show mother 5x7 card and ask:) ¿CUAL DE ESTOS GRUPOS PIENSA UD. QUE TIENE LA CLASE DE RESPUESTAS QUE___________DIO CUANDO LE PREGUNTE: QUE ES FIEL?

Score: 2, 1, 0 points according to scoring standards set in child manual (p.70).

Subtest 5. Preguntas Numéricas

Test Limits

Begin with item 1 for all parents. Discontinue after prediction of 4 consecutive failures.

Procedure

A CONTINUACION LE HICE ALGUNAS PREGUNTAS NUMERICAS A________________.

1. CUANDO LE PREGUNTE A______________: ¿CUANTAS OREJAS TIENES? ¿PIENSA UD. QUE EL/ELLA ELLA ME CONTESTO LA RESPUESTA CORRECTA, 2?

2. LE PREGUNTE A_____________: ¿CUANTAS NARICES TIENES? ¿PIENSA UD. QUE EL/ELLA ME CONTESTO, 1?

3. LUEGO LE PREGUNTE A_______________: ¿CUANTAS CABEZAS TIENES? ¿PIENSA UD. QUE________ ME DIJO QUE TIENE UNA CABEZA?

4. LUEGO LE PREGUNTE A_______________: ¿SI TIENES 2 JUGUETES Y TE DOY UNO MAS, CUANTOS JUGUETES TENDRIAS? ¿PIENSA UD.QUE ME DIJO 3?

5. DESPUES LE DIJE A:________________: IMAGINATE QUE TIENES CUATRO GLOBOS. SI LA MITAD DE ELLOS SE TE REVIENTAN ¿CUANTOS TE QUEDAN? ¿PIENSA UD. QUE EL/ELLA CONTESTO CORRECTAMENTE, DICIENDO 2?

6. LUEGO LE DIJE A_____________: SI YO TENGO SEIS DULCES EN CADA MANO, ¿CUANTOS DULCES TENGO CON TODOS? ¿PIENSA UD. QUE EL/ELLA DIJO LA RESPUESTA CORRECTA, 6 DULCES?

7. DESPUES LE DIJE A_________________: SI TIENES NUEVE CENTAVOS Y PIERDES DOS, ¿CUANTOS TE QUEDAN? ¿PIENSA UD. QUE EL/ELLA ME CONTESTO CORRECTAMENTE 7?

8. LUEGO LE DIJE A________________: SI VOY A LA TIENDA Y COMPRO UNA DOCENA DE MANZANAS, ¿CUANTAS MANZANAS TENGO? ¿PIENSA UD. QUE_____________ME DIJO QUE TENDRIA 12 MANZANAS?

9. A CONTINUACION LE DIJE A______________: UNA CAJA DE CRAYOLAS/COLORES CUESTA VEINTINUEVE CENTAVOS Y UN LIBRO PARA COLOREAR/PINTAR CUESTA VEINTITRES CENTAVOS. ¿CUANTOS CENTAVOS MAS CUESTAN LAS CRAYOLAS QUE EL LIBRO PARA COLOREAR/PINTAR? ¿PIENSA UD. QUE ME DIJO 6 CENTAVOS?

10. PARA EL PROXIMO PROBLEMA LE DIJE: SI COMPRAS UNA PELOTITA POR VEINTE CENTAVOS, ¿CUANTA FERIA TE DARIAN DE UN DOLAR? ¿PIENSA UD. QUE________________CONTESTO CORRECTAMENTE DICIENDO .80 CENTAVOS?

11. LUEGO LE DIJE: ESTOY PENSANDO EN UN NUMERO SECRETO. SI LO MULTIPLICO POR DOS Y ME DA OCHO, ¿DE QUE NUMERO ESTOY PENSANDO? ¿PIENSA UD. QUE ME DIJO QUE EL NUMERO ES 4?

12. PARA EL ULTIMO PROBLEMA LE DIJE A_____________: CUATRO NIÑOS COMPARTIERON/SE REPARTIERON 12 GALLETAS. SI CADA NIÑO RECIBIO EL MISMO NUMERO DE GALLETAS, ¿CUANTAS GALLETAS TIENE CADA UNO? ¿PIENSA UD. QUE EL/ELLA CONTESTO CORRECTAMENTE, 3?

Subtest 6. Sucesión de dar Golpecitos/Palmaditas

Materials

Xylophone

Mallet

Test Limits

Begin with item 1 for all parents. If parent predicts that child will correctly play the tune on any one of 3 trials, proceed with items 2-8, and discontinue after 2 consecutive failures.

Procedure

Place the xylophone in front of the parent. YO LE DIJE A______________: MIRA Y PON ATENCION, Y MIRA SI PUEDES TOCAR LA MISMA CANCION.

CUANDO YO TOQUE ESTA SECUENCIA (considering the largest key as number 1, tap the keys sharply with the mallet, about one tap per sequence, in the sequence for item 1: 1-2-3-4), ¿PIENSA UD. QUE______________REPRODUJO CORRECTAMENTE TODO EL MODELO QUE YO LE PRESENTE? ¿PARTE DE EL? ¿O PIENSA UD. QUE______________LE DIO A LAS TECLAS AL AZAR?

If the parent predicted that the child did not reproduce the correct sequence ¿PIENSA UD. QUE__________TOCARIA LA SEQUENCIA DESPUES DE 2 o 3 VECES SI LE MUESTRO DE NUEVO?

Score: 2 points if parent predicts the sequence was correctly reproduced.
1 point if parent predicts child reproduced only part of the sequence.
0 points if parent predicts child cannot reproduce sequence.

Maximum item score: 2

If parent predicts child played item 1 correctly (i.e. received 2 points for best trial) continue with items 2-8, demonstrating each sequence. For each item.

LUEGO LE DIJE A_______________: MIRA Y PON ATENCION, Y MIRA SI PUEDES TOCAR LA MISMA CANCION. ESTA VEZ EL/ELLA SOLO TUVO UNA OPORTUNIDAD. ¿PIENSA UD. QUE_______ TOCO LA CANCION CORRECTAMENTE?

(Before playing tune number 2 say:)

¿PIENSA UD. QUE EL/ELLA TOCO ESTA CANCION CORRECTAMENTE? (Do this before each of the remaining times).

(2) 1-3-4
(3) 2-4-1
(4) 4-1-2-3
(5) 2-3-1-4
(6) 1-4-3-2-3
(7) 4-2-3-1-2
(8) 1-2-4-3-2-1

Subtest 7. Memoria Verbal

Materials

6 cards with words printed on them (Part I)

1 card with Story printed on it (Part II)

Test Limits

Begin with Part I for all parents. Discontinue predictions of 3 consecutive failures. If parent predicts child earned 8 or more points (out of 30) on Part I, give Part II.

Procedure

Part I. Palabras y Oraciones

A CONTINUACION LE DIJE UNAS PALABRAS A______________Y LE PEDI ME DIJERA CUANTAS SE RECORDABA. ESTO FUE LO QUE LE DIJE A______________: AHORA VOY A DECIR ALGUNAS PALABRAS Y QUIERO VER CUANTAS DE ELLAS ME PUEDES REPETIR/DECIR PARA ATRAS. ESPERA A QUE LAS DIGAS TODAS ANTES DE QUE EMPIECES A CONTESTAR. ESCUCHA.

CUANDO LE DIJE ESTAS PALABRAS A______________(Present first 3x5 card and say words:) JUGUETE-SILLA-LUZ, ¿CUANTAS PALABRAS PIENSA UD. QUE____________REPITIO CORRECTAMENTE, Y PIENSA UD. QUE LAS PALABRAS CORRECTAS FUERON REPETIDAS EN EL ORDEN CORRECTO? ______________NO TUVO ESTA TARJETA ENFRENTE DE EL/ELLA. TUVO QUE HACERLO DE MEMORIA. ¿DE ACUERDO? DE LA PRIMERA TARJETA ¿CUANTAS PALABRAS PIENSA UD. QUE REPITIO CORRECTAMENTE? (After parent response say:) ¿PIENSA UD. QUE LAS PALABRAS CORRECTAS FUERON REPETIDAS EN EL ORDEN CORRECTO? (If parent says no ask her:) ¿EN QUE ORDEN PIENSA UD. QUE______________DIJO LAS PALABRAS?

Repeat procedure for items 2-4.

2. muñeca-oscuro-abrigo.
3. después-color-chistoso—hoy.
4. alrededor-porque-debajo-nunca.

Score for items 1-4: Score 1 point for each word predicted to be correctly repeated.

PARA LAS PALABRAS SIGUIENTES LE PEDI A______________QUE DIJERA:

5. EL NIÑO LE DECIA ADIOS A SU PERRO CADA MAÑANA ANTES DE IRSE A LA ESCUELA.

YO LE DI PUNTOS A______________SI EL/ELLA REPITIO LAS PALABRAS PRINCIPALES QUE UD. VE SUBRAYADAS (read words to mother) ¿CUANTAS DE ESTAS PALABRAS PRINCIPALES PIENSA UD. QUE______________REPITIO? NO IMPORTA SI NO LAS DIJO EN ORDEN.

6. LUEGO LE LEI LA SIGUIENTE ORACION A______________: LA NIÑA LE AMARRO UNA CINTA ROSADA MUY BONITA A SU MUÑECA ANTES DE SALIR.

(Repeat directions to parents).

Score for items 5 and 6: Based on the prediction of the reproduction of key words. Give 1 point for each key word repeated.

Maximum score on Part I: 30

Part II. Cuento

LUEGO LE LEI UN CUENTO A_______________Y LE PEDI QUE LO REPITIERA. EL/ELLA NO TUVO QUE REPETIRLO PALABRA POR PALABRA. SOLO TUVO QUE REPETIRLO LO MEJOR POSIBLE. ESTAS SON LAS INSTRUCCIONES QUE LE DI A_______________:

AHORA TE VOY A LEER UN CUENTO CHIQUITO. ESCUCHA CON CUIDADO, Y A VER QUE TAN BIEN ME LO PUEDES DECIR PARA ATRAS. NO ME LO TIENES QUE DECIR PALABRA POR PALABRA. NADA MAS DIME EL CUENTO LO MEJOR QUE PUEDAS.

UN DIA, DESPUES DE LA ESCUELA, ROBERTO IBA A LA TIENDA. EN SU CAMINO VIO A UNA SEÑORA QUE TRAIA CARTAS A UN BUZON. DE REPENTE, EL AIRE LE VOLO LAS CARTAS A LA CALLE. ROBERTO GRITO, "¡YO SE LAS TRAIGO!" MIRO A LOS DOS LADOS Y VIO QUE NO VENIAN CARROS. CORRIO A LA CALLE Y LEVANTO TODAS LAS CARTAS. LA SEÑORA ESTABA MUY CONTENTA DE RECIBIR SUS CARTAS OTRA VEZ. ELLA LE DIO LAS GRACIAS A ROBERTO POR SER UN NIÑO MUY BUENO Y POR HABERLE AYUDADO.

"CUANDO YO LE PEDI A_______________QUE ME REPITIERA EL CUENTO DE LA MEJOR MANERA POSIBLE, ¿PIENSA UD. QUE_______________SE RECORDO DE O MENCIONO EL HECHO DE QUE:

1. EL CUENTO ES SOBRE UN NIÑO?
   Palabras aceptadas que él/ella pudo haber usado fueron palabras como Roberto, Tomás (o cualquier otro nombre de niños), muchacho, niño. Palabras de esa clase fueron aceptadas como correctas."
2. HAY UNA MUJER EN EL CUENTO
   _______________pudo haber usado palabras como mujer, señora, madre, abuela o un nombre como Señora García."
3. QUE EL CUENTO ES SOBRE CARTAS
   _______________pudo haber usado palabras como carta, correo, tarjeta."
4. QUE EL NIÑO IBA EN CAMINO A LA TIENDA
   Por ejemplo, _______________pudo haber dicho que el niño iba caminando, corriendo a la tienda, al supermercado o a la tienda de comestibles."
5. QUE EL NIÑO SE ENCONTRO CON ALGUIEN
   _______________pudo haber usado palabras como vió, encontró, miró.
6. QUE ALGO VOLO
   _______________pudo haber dicho que el viento voló algo o que algo voló."
7. QUE EL NIÑO LE DIJO A LA SEÑORA QUE LE IBA A AYUDAR
   _______________pudo haber dicho que el niño gritó,"yo se las traigo, se las recojo, se las encuentro."

8. "QUE EL NIÑO TUVO MUCHO CUIDADO EN IR A LA CALLE, A LA CUNETA, AL CAMINO
Por ejemplo, el niño tuvo mucho cuidado en ver a los dos lados de la calle a ver si venían carros."

9. "QUE EL NIÑO PERSIGUIO, RECOGIO, O REGRESO LAS CARTAS A LA MUJER"

10. "QUE LA MUJER SE ALEGRO PORQUE EL NIÑO LE DIO LAS CARTAS"

11. "QUE LA SEÑORA LE DIO LAS GRACIAS AL NINO POR SER TAN BUENO O POR HABERLA AYUDADO"

Score: 1 point for each item predicted to be remembered

Maximum score on Part II: 11

Subtest 8. Orientación de Derecha e Izquierda

Materials

Picture of a boy (in the Card Book)

Test Limits

Only administer this subtest to parents whose child is over age 5 (over 4 years, 10 months, 16 days).

Begin with item 1. Discontinue after failure on 5 consecutive items. To fail a 2-part item (e.g., items 3, 8, and 9), the parent has to predict 0 on both parts of the item; otherwise the item is considered passed.

Procedure

(Sit on same side as the parent, but first explain that when you tested ____________ you were sitting opposite her child).

LUEGO LE HICE UNAS PREGUNTAS A______________PARA VER SI EL/ELLA SABE SU DERECHA Y SU IZQUIERDA. LA PRIMERA PREGUNTA QUE LE HICE A________________FUE"

1. ENSEÑAME TU MANO DERECHA.

¿PIENSA UD. QUE_____________ME MOSTRO SU MANO DERECHA? (Demonstrate)

2. LUEGO LE PREGUNTE A_____________: ¿CUAL ES TU OREJA IZQUIERDA?

¿PIENSA UD. QUE_____________ME MOSTRO SU OREJA IZQUIERDA? (Demonstrate)

3. LUEGO LE DIJE A________________: CON TU MANO IZQUIERDA, TOCA TU OJO DERECHO.

EN ESTE CASO LE PREGUNTE DOS COSAS A______________. (demonstrate) ¿PIENSA UD. QUE ________________HIZO LAS DOS COSAS CORRECTAMENTE, SOLO UNA , O NINGUNA?

4. LUEGO LE DIJE A________________: PON TU BARBA EN TU MANO IZQUIERDA.

¿PIENSA UD. QUE________________PUSO SU BARBA EN SU MANO IZQUIERDA? (demonstrate)

5. PARA LA PROXIMA ACTIVIDAD LE DIJE A________________: CRUZA TU RODILLA IZQUIERDA A LA DERECHA.

¿PIENSA UD.QUE_____________CRUZO SU RODILLA IZQUIERDA SOBRE LA RODILLA DERECHA? (Demonstrate)

6. (Turn to the last card, Roger, in the Card Book and place it on the table in front of the parent and you).

PARA LAS PROXIMAS ACTIVIDADES LE MOSTRE A_____________ESTE RETRATO DE UN NIÑO, Y LE PREGUNTE MAS SOBRE DERECHA E IZQUIERDA.

PRIMERO LE DIJE A________________: ESTE NIÑO SE LLAMA ROGELIO. ENSEÑAME LA RODILLA IZQUIERDA DE ROGELIO.

¿PIENSA UD. QUE ________________ME MOSTRO LA RODILLA IZQUIERDA DE ROGELIO? (Demonstrate).

7. DESPUES DE ESTO LE PREGUNTE A____________: ENSEÑAME EL CODO DERECHO DE ROGELIO. ¿PIENSA UD. QUE____________ME MOSTRO EL CODO DERECHO DE ROGELIO? (Demonstrate).

8. LUEGO LE DIJE A____________: ENSEÑAME EL PIE IZQUIERDO DE ROGELIO CON TU MANO DERECHA.
PARA ESTA ACTIVIDAD LE PEDI A____________DOS COSAS. (demonstrate). ¿PIENSA UD. QUE______________HIZO LAS DOS COSAS CORRECTAMENTE, SOLO UNA, O NINGUNA?

9. FINALMENTE LE DIJE A____________: PON TU MANO DERECHA EN EL HOMBRO DERECHO DE ROGELIO.
DE NUEVO, LE PREGUNTE DOS COSAS A____________. (Demonstrate). ¿PIENSA UD. QUE HIZO LAS DOS COSAS CORRECTAMENTE, SOLO UNA, O NINGUNA?

Score: 1 point for each item (or each part of an item having 2 parts) answered correctly.

Maximum test score: 12

Subtest 12. Dibujar-un-Diseño

Materials

Drawing Booklet

Pages with 2, 1 and 0 point responses for each item

Test Limits

Begin with item 1 for all parents. Discontinue after predictions of 3 consecutive failures. If parent predicts child earned 1 or more points on Draw-A-Design, give Draw-A-Child (Test 13). If parent predicts child received no credit on Draw-A-Design, proceed to Test 14.

Procedure

LUEGO LE MOSTRE UNOS DISEÑOS A______________Y LE PEDI QUE ME DIBUJARA UNOS DISEÑOS IGUALES. NO TUVO LIMITACIONES. YO LE DIJE A______________:VAMOS A VER.HAZ TUS DISEÑOS AQUI. (point to the blank bottom half).

EL PRIMER DISEÑO QUE LE MOSTRE A______________FUE UN CIRCULO. (Show parent picture of item 1 in Drawing Booklet). ¿CUAL DE ESTOS DIBUJOS PEINSA UD. QUE SE PARECE MAS AL QUE HIZO______________? (Present to the parent the card with different circle drawings).

Score: go according to criteria set in MSCA manual (p.99).

Repeat procedure with items 2-9. Use scoring on pps. 101-111 in manual.

Maximum test score: 19

Subtest 13. Dibujar-un-Niño

Materials

Drawing Booklet

1 short pencil (4-6 inches long) with no eraser

Pages with 2, 1, and 0 responses for each part of drawing

Test Limits

Administer only if parent predicts child earned 1 or more points on Draw-a-Design

Procedure

DESPUES DE LOS DIBUJOS DE DISEÑOS, LE PEDI A ____________ QUE DIBUJARA UN NIÑO/UNA NIÑA (depending on sex of child). NO HUBO LIMITACION DE TIEMPO. ESTO FUE LO QUE LE DIJE A ____________: VAMOS A VER. AHORA DIBUJA UN NIÑO/UNA NIÑA EN ESTA PAGINA. (Show page to parent). HAZLO LO MAS BONITO QUE PUEDAS. ASEGURATE QUE LO/LA DIBUJES COMPLETO(A).

¿CUAL DE ESTOS DIBUJOS PIENSA UD. QUE SE PARECE MAS AL DIBUJO QUE HIZO ____________ DE LA CABEZA? ¿O PIENSA UD. QUE ____________ NO DIBUJO UNA CABEZA PARA NADA? (Present page with different head drawings).

Score: go according to criteria set in child manual (pps. 113-114)

Repeat procedure with hair, eyes, nose, mouth, neck, trunk, arm and hands, attachment of of arm, legs and feet. (Scoring on pps. 114-121).

Maximum test score: 20

Subtest 14. Memoria Numérica

Materials

1 card with numbers listed for each item (Part I) trial 1 and 2

1 card with numbers listed for each item (Part II) trial 1 and 2

Test Limits

Begin with Part I for all parents. Discontinue after predictions of failure on both trials of any item. If parent predicts child earned 3 or more points on Part I, give Part II and discontinue after predictions of failure on both trials of any item.

Part I: Series Delanteras

Procedure

LUEGO HICIMOS UNA ACTIVIDAD DE MEMORIA NUMERICA. PRIMERO PRACTICAMOS. PRIMERO LE DIJE A______________: AHORA VAMOS A VER QUE BIEN DICES LOS NUMEROS. ESCUCHA. DI DOS. (pause). AHORA DI SEIS.

ESTO FUE PRACTICA. LUEGO LE PEDI A_______________QUE REPITIERA ALGUNAS SEQUENCIAS DE NUMEROS. PRIMERO LE PEDI QUE DIJERA 5-8. (Present card with number sequence for item a, but tell parent child was not shown card) ¿PIENSA UD. QUE________________ REPITIO LA SEQUENCIA DE 5-8 CORRECTAMENTE?

(If parent predicts the child could not repeat sequence, say:) _____________TUVO OTRA OPORTUNIDAD CON OTROS DOS NUMEROS: 4-9. (Show parent the card). ¿PIENSA UD. QUE _______________REPITIO ESTA SEQUENCIA DE 4-9 CORRECTAMENTE?

Repeat procedure with items 2-6.

	Trial 1	Trial 2
2.	6-9-2	5-8-3
3.	3-8-1-4	6-1-8-5
4.	4-1-6-9-2	9-4-1-8-3
5.	5-2-9-6-1-4	8-5-2-9-4-6
6.	8-6-3-5-2-9-1	5-3-8-2-1-9-6

Score: 2 points for prediction of correct repetition on trial 1
1 point for prediction of correct repetition on trial 2

Maximum score on Part I: 12

Part II: Series al Revés

Procedure

LUEGO LE PEDI A____________QUE DIJERA ALGUNOS NUMEROS, PERO AL REVES. ESTO FUE LO QUE LE DIJE A___________: AHORA QUIERO QUE ME DIGAS MAS NUMEROS. ESTA VEZ QUIERO QUE ME LOS DIGAS AL REVES. MIRA, SI YO DIGO TRES-CINCO, TU DICES CINCO-TRES. ¿ENTENDIDO? ¿QUE DICES SI YO DIGO TRES-CINCO?

ESTO FUE PRACTICA. LUEGO LE PEDI A___________QUE REPITIERA ALGUNAS SEQUENCIAS DE NUMEROS AL REVES. PRIMERO LE PEDI QUE DIJERA ESTOS NUMEROS AL REVES: 9-6. (show parent the card) ¿PIENSA UD. QUE__________REPITIO ESTA SEQUENCIA AL REVES CORRECTAMENTE? ES DECIR, ¿DIJO EL/ELLA 6-9?

(If parent predicts child could not predict sequence backwards, say:) LE DI OTRA OPORTUNIDAD A___________CON OTROS DOS NUMEROS: 4-1. (show parent the card). ¿PIENSA UD. QUE___________REPITIO ESTA SEQUENCIA AL REVES CORRECTAMENTE? ES DECIR, ¿DIJO 1-4?

Repeat procedure with items 2-5.

	Trial 1	Trial 2
1.	9-6	4-1
2.	1-8-3	2-5-8
3.	5-2-4-9	6-1-8-3
4.	1-6-3-8-5	6-9-5-2-8
5.	4-9-6-2-1-5	3-8-1-6-2-9

Score: 2 points for prediction of correct repetition on trial 1

1 point for prediction of correct repetition on trial 2

Maximum score on Part II: 10

Subtest 15. Fluidez Verbal

Materials

4 cards with examples of acceptable and non acceptable responses

Test Limits

Give the entire test to the parent

Procedure

LUEGO LE PEDI A______________QUE NOMBRARA TANTAS COSAS COMO PUDIERA EN POCO TIEMPO. LA PRIMERA ACTIVIDAD TUVO QUE VER CON "COSAS PARA COMER." ESTO FUE LO QUE LE DIJE A_____________: VAMOS A VER DE CUANTAS COSAS DIFERENTES PARA COMER TE RECUERDAS ANTES DE QUE YO TE DIGA QUE PARES. TU SABES, COMO TORTILLAS Y PAPAS. LISTO, COMIENZA/EMPIEZA.

___________________TUVO 20 SEGUNDOS PARA NOMBRAR COSAS DIFERENTES PARA COMER. ¿CUANTAS COSAS PARA COMER PIENSA UD. QUE_____________NOMBRO? AQUI TIENE UD. EJEMPLOS DE DOS GRUPOS DE RESPUESTAS POSIBLES. (Show parent 3x5 card and read the examples. Point to the first group and say:) ¿CUANTAS COSAS DIFERENTES PARA COMER COMO ESTAS, NOMBRO _______________, SI ES QUE NOMBRO ALGUNAS? (Next, point to the second group and say:) ¿CUANTAS COSAS DIFERENTES PARA COMER COMO ESTAS NOMBRO___________, SI ES QUE NOMBRO ALGUNAS?

LUEGO LE DIJE A__________: ¡QUE BIEN! AHORA VAMOS A VER DE CUANTOS ANIMALES DIFERENTES TE PUEDES ACORDAR ANTES DE QUE YO DIGA QUE PARES. TU SABES, COMO GATO Y OSO. LISTO, EMPIEZA.

COMO LA VEZ ANTERIOR, _____________TUVO 20 SEGUNDOS PARA NOMBRAR DIFERENTES CLASES DE ANIMALES. ¿CUANTOS ANIMALES DIFERENTES PIENSA UD. QUE_____________NOMBRO DEL PRIMER GRUPO? ¿Y DEL SEGUNDO GRUPO? AQUI TIENE UD. EJEMPLOS DE DOS GRUPOS DE RESPUESTAS POSIBLES. (Show parent the 3x5 card and read examples. Repeat procedure as in "food").

DESPUES DE LA ACTIVIDAD DE ANIMALES, LE PEDI A______________: AHORA TRATA DE DECIRME DE TODAS LAS COSAS PARA VESTIRSE ANTES DE QUE TE DIGA QUE PARES. TU SABES, COMO ZAPATOS. LISTO, EMPIEZA.

DE NUEVO, _______________TUVO 20 SEGUNDOS PARA RESPONDER. ¿CUANTAS COSAS DIFERENTES PARA VESTIRSE PIENSA UD. QUE___________NOMBRO DEL PRIMER GRUPO? ¿Y DEL SEGUNDO GRUPO? AQUI TIENE EJEMPLOS DE DOS GRUPOS DE POSIBLES RESPUESTAS. (Show parent the 3x5 card and read the examples).

POR ULTIMO LE DIJE A______________: AHORA VAMOS A VER DE CUANTAS COSAS PARA PASEAR TE ACUERDAS ANTES DE QUE YO DIGA QUE PARES. TU SABES, COMO UN BUS. LISTO, EMPIEZA.

COMO ANTES, _____________TUVO 20 SEGUNDOS PARA CONTESTAR. ¿CUANTAS COSAS DIFERENTES PARA PASEAR PIENSA UD. QUE__________NOMBRO DEL PRIMER GRUPO? ¿Y DEL SEGUNDO GRUPO? AQUI TIENE EJEMPLOS DE DOS GRUPOS DE POSIBLES RESPUESTAS. (show the parent the 3x5 card and read examples).

Score: 1 point for each predicted acceptable response up to a maximum of 9 for each item.

Maximum test score: 36

Subtest 16. Contar y Clasificar

Materials

10 1 inch cubes

2 pieces of cardboard, each 5x8 inches

est Limits

If parent predicted that child passed 9 or more items on Number Questions (test 5) give full credit (9 points) on Counting and Sorting. Otherwise, administer Counting and Sorting, beginning with item 1. Discontinue after predictions of 4 consecutive failures.

Procedure

(Place 8 blocks on the table in random order, between the parent and the examiner).

EL PROXIMO GRUPO DE ACTIVIDADES QUE HICE CON__________TUVO QUE VER CONTAR Y CLASIFICAR BLOQUES.

1. PARA LA PRIMERA ACTIVIDAD LE DIJE A__________: AQUI TIENES LOS BLOQUES DE NUEVO. TOMA DOS DE LOS BLOQUES Y PONLOS AQUI. (point to a place near the parent but away from the rest of the blocks).

   ¿PIENSA UD. QUE__________TOMO LOS 2 BLOQUES Y LOS PUSO AQUI? (Demonstrate to parent).

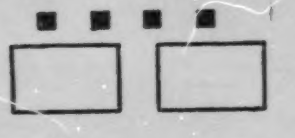
2. LUEGO LE DIJE A__________: AHORA TOMA TRES BLOQUES MAS.

   ¿PIENSA UD. QUE__________TOMO TRES BLOQUES MAS? (Demonstrate to parent).

3. DESPUES DE ESO LE PREGUNTE A__________: ¿CUANTOS BLOQUES TIENES?

   ¿PIENSA UD. QUE__________CONTESTO CORRECTAMENTE "5"?

4. (Gather up the blocks. Place two pieces of cardboard in front of parent. Then place 4 blocks in a row, according to the following diagram, between the parent and cardboard).



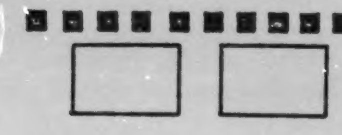
   LUEGO LE DIJE A__________: AQUI TIENES UNOS BLOQUES (point) Y AQUI TIENES UNAS TARJETAS. PON TODOS ESTOS BLOQUES ARRIBA DE LAS TARJETAS. PON ALGUNOS DE LOS BLOQUES EN ESTAS TARJETAS Y DESPUES PON EL MISMO NUMERO EN ESTA TARJETA. NO OLVIDES USAR TODOS LOS BLOQUES, Y DEBES ESTAR SEGURO(A) DE PONER EL MISMO NUMERO DE BLOQUES EN ESTA TARJETA (point) COMO EN ESTA TARJETA (point).

   ¿PIENSA UD.QUE__________PUSO CORRECTAMENTE LOS DOS BLOQUES EN CADA TARJETA? (demonstrate to parent).

5. DESPUES DE ESTO LE PREGUNTE A__________: ¿CUANTOS BLOQUES HAY EN CADA TARJETA?

   ¿PIENSA UD. QUE__________DIJO CORRECTAMENTE "2"?

6. (After parent responds to the last question, place 10 blocks in a row, according to the following diagram, between the parent and the cards).



LUEGO LE DIJE A____________: AQUI HAY MAS BLOQUES. PON ALGUNOS DE ESTOS BLOQUES EN ESTA TARJETA (point) Y DESPUES PON EL MISMO NUMERO EN ESTA TARJETA (point). USA TODOS LOS BLOQUES.

¿PIENSA UD. QUE____________PUSO 5 BLOQUES EN CADA TARJETA? (Demonstrate to parent).

7. LUEGO LE PREGUNTE A______________: ¿CUANTOS BLOQUES HAY EN CADA TARJETA?

¿PIENSA UD. QUE______________CONTESTO CORRECTAMENTE DICIENDO "5"?

8. (Gather up the blocks and the 2 pieces of cardboard. Then place 8 blocks in a straight line leaving about 1/2 inch between blocks).

LUEGO SEÑALE MAS ALLA DEL ULTIMO BLOQUE A LA IZQUIERDA DE___________(Demonstrate to parent) Y LE DIJE: ENSEÑAME EL SEGUNDO BLOQUE DE ESTE LADO.

¿PIENSA UD. QUE____________SEÑALO EL BLOQUE CORRECTO? (Demonstrate to parent).

9. LA ULTIMA ACTIVIDAD CON LOS BLOQUES ES LA SIGUIENTE: LE SEÑALE EL FIN DE LA FILA A LA DERECHA DE_____________Y AL MISMO TIEMPO LE DIJE: AHORA ENSEÑAME EL CUARTO BLOQUE DESDE ESTA PUNTA.

¿PIENSA UD. QUE ___________SEÑALO EL BLOQUE CORRECTO? (Demonstrate to parent).

Score: 1 point for each correct response.

Maximum test score: 9

Subtest 17. Analogías Opuestas

Materials

9 cards listing acceptable and non acceptable responses, one for each item

Test Limits

Begin with item 1 for all parents. If parent predicts child answered at least 1 of the first 2 items correctly, proceed with items 3-9 and discontinue after prediction of 3 consecutive failures on these items.

Procedure

For each item, give a slight vocal stress to the key word (printed in italics) but do not use gestures to illustrate the item content (e.g. avoid upward and downward motions for item 2).

1. ESTA ACTIVIDAD QUE SIGUE TIENE QUE VER CON ANALOGIAS OPUESTAS. LE LEI UNA ORACION A ____________ Y LE PEDI QUE LA TERMINARA CON UNA PALABRA QUE SIGNIFICA LO OPUESTO DE LO QUE YO LE DIJE.
   ESTA ES LA MANERA EN QUE COMENCE. LE DIJE A __________: YO VOY A DECIR ALGO Y QUIERO VER SI TU PUEDES ACABARLO CON UNA PALABRA QUE DIGA LO CONTRARIO DE LO QUE YO DIGA. MIRA. EL SOL ES "CALIENTE"; ¿Y EL HIELO ES __________ QUE?
   AQUI TIENE EJEMPLOS DE DOS GRUPOS DE POSIBLES RESPUESTAS. (Show parent 3x5 card and read the examples. Point to the card and say:) ¿CUAL GRUPO DE RESPUESTAS PIENSA UD. QUE TIENE LA CLASE DE RESPUESTAS QUE __________ DIO?
2. LUEGO LE DIJE A ____________: YO TIRO LA PELOTA "ARRIBA" Y DESPUES VIENE __________.
   AQUI TIENE EJEMPLOS DE DOS GRUPOS DE POSIBLES RESPUESTAS. (Show parent 3x5 card and read the examples. Point to the card and say:) ¿CUAL GRUPO DE RESPUESTAS PIENSA UD. QUE TIENE LA CLASE DE RESPUESTAS QUE __________ DIO?
3. LUEGO LE DIJE A __________: UN ELEFANTE ES "GRANDE" Y UN RATON ES ____________.
   AQUI TIENE EJEMPLOS DE DOS GRUPOS DE POSIBLES RESPUESTAS. (Show parent 3x5 card and read the examples. Point to the card and say:) ¿CUAL GRUPO DE RESPUESTAS PIENSA UD. QUE TIENE LA CLASE DE RESPUESTAS QUE __________ DIO?
4. DESPUES DE ESTO LE DIJE A __________: EL CORRER ES "RAPIDO" Y EL CAMINAR ES __________.
   AQUI TIENE EJEMPLOS DE DOS GRUPOS DE POSIBLES RESPUESTAS. (Show parent 3x5 card and read the examples. Point to the card and say:) ¿CUAL GRUPO DE RESPUESTAS PIENSA UD. QUE TIENE LA CLASE DE RESPUESTAS QUE __________ DIO?
5. LUEGO LE DIJE A __________: EL ALGODON ES "SUAVE" Y LAS PIEDRAS SON __________.
   AQUI TIENE EJEMPLOS DE DOS GRUPOS DE POSIBLES RESPUESTAS. (Show parent 3x5 card and read the examples. Point to the card and say:) ¿CUAL GRUPO DE RESPUESTAS PIENSA UD. QUE TIENE LA CLASE DE RESPUESTAS QUE __________ DIO?

6. LUEGO LE DIJE A____________: UN LIMON ES "ACIDO/AGRIO" Y EL AZUCAR ES ____________. AQUI TIENE EJEMPLOS DE DOS GRUPOS DE POSIBLES RESPUESTAS. (Show parent 3x5 card and read the examples. Point to the card and say:) ¿CUAL GRUPO DE RESPUESTAS PIENSA UD. QUE TIENE LA CLASE DE RESPUESTAS QUE____________DIO?

7. LUEGO LE DIJE A____________: LAS PLUMAS SON "LIVIANAS" Y LAS PIEDRAS SON ____________. AQUI TIENE EJEMPLOS DE DOS GRUPOS DE POSIBLES RESPUESTAS. (Show parent 3x5 card and read the examples. Point to the card and say:) ¿CUAL GRUPO DE RESPUESTAS PIENSA UD. QUE TIENE LA CLASE DE RESPUESTAS QUE____________DIO?

8. LUEGO LE DIJE A____________: LA MIEL ES "ESPESA" Y EL AGUA ES ____________. AQUI TIENE EJEMPLOS DE DOS GRUPOS DE POSIBLES RESPUESTAS. (Show parent 3x5 card and read the examples. Point to the card and say:) ¿CUAL GRUPO DE RESPUESTAS PIENSA UD. QUE TIENE LA CLASE DE RESPUESTAS QUE____________DIO?

9. FINALMENTE LE DIJE A____________: LA LIJA/SANDPAPER ES "RASPOSA" Y EL VIDRIO ES ____________ AQUI TIENE EJEMPLOS DE DOS GRUPOS DE POSIBLES RESPUESTAS. (Show parent 3x5 card and read the examples. Point to the card and say:) ¿CUAL GRUPO DE RESPUESTAS PIENSA UD. QUE TIENE LA CLASE DE RESPUESTAS QUE____________DIO?

Score: 1 point for each predicted correct response.

Maximum test score: 9

Subtest 18. Agrupación Conceptual

Materials

Set of 12 blocks--6 squares and 6 circles, each shape provided in 3 colors (red, yellow, blue) and 2 sizes per color. Piece of cardboard, 5x8 inches.

Test Limits

Begin with item 1 for all parents. Discontinue after predictions of 4 consecutive failures.

Procedure

(Place the cardboard in front of parent. The long edge of the cardboard should be parallel to the edge of the table nearest the parent. Place the blocks on the table).

1. (Place the 2 blue squares on the cardboard in this order: (from your left to right) little, big. Be sure the edges of the squares are parallel to the edges of the cardboard).

COMENCE DICIENDOLE A___________: ENSEÑAME EL PEQUEÑO. ¿PIENSA UD. QUE____________ SEÑALO EL BLOQUE PEQUEÑO? (Point to the little block).

LUEGO LE PEDI A_____________: AHORA ENCUENTRA EL GRANDE. ¿PIENSA UD. QUE__________ SEÑALO EL BLOQUE GRANDE?

Score: 1 point for prediction of correct identification of both blocks.

Maximum item score: 1

22. Remove the 2 blue squares. Place the 3 small circles on the cardboard in this order (from your left to right): yellow, red, blue.

LE PEDI A__________: ENSEÑAME EL ROJO. ¿PIENSA UD. QUE EL/ELLA LO SEÑALO? (Point to the red one).

LUEGO LE DIJE: AHORA ENSEÑAME EL AMARILLO. ¿PIENSA UD. QUE EL/ELLA SEÑALO EL AMARILLO? (Point to the yellow one).

DESPUES DE ESO LE PEDI A_____________: ENCUENTRA EL AZUL. ¿PIENSA UD. QUE EL/ELLA SEÑALO EL AZUL? (point to the blue one).

Score: 1 point for each prediction of correct identification of all 3 colors.

Maximum item score: 1

3. (Remove the 3 small circles. Place the large red circle and square on the cardboard in this order (from your left to right): circle, square. Be sure that the edges of the square are parallel to the edges of the cardboard).

LUEGO LE PEDI A______________: ENCUENTRA EL CUADRADO. ¿PIENSA UD. QUE EL/ELLA SEÑALO EL CUADRADO? (Point to the square one).

LUEGO LE DIJE: ENSEÑAME EL REDONDO. ¿PIENSA UD. QUE EL/ELLA SEÑALO EL REDONDO? (Point to the round one).

Score: 1 point for prediction of correct identification of both shapes.

Maximum item score: 1

4. (Scatter all of the 12 blocks randomly on the table, before the parent).

PUSE ESTOS BLOQUES ENFRENTE DE__________Y LE DIJE: AHORA TENGO MAS QUE ENSEÑARTE. ¿VES TODOS ESTOS? ENCUENTRA TODOS LOS CUADRADOS Y PONLOS EN ESTA TARJETA. (Point).

HAY 6 BLOQUES CUADRADOS. (Put 6 square blocks on card). ¿CUANTOS DE ESTOS 6 BLOQUES, SI ALGUNO, PIENSA UD. QUE__________PUSO EN LA TARJETA?

TOME NOTA DE QUE HAY 6 BLOQUES DE MAS QUE NO SON CUADRADOS. ¿CUANTOS DE ESTOS, SI ALGUNO, DE ESTOS (point) PIENSA UD. QUE PUSO EN ESTA TARJETA (point) POR ERROR / ERRONEAMENTE?

Score: Subtract the number of wrong choices from the number of right choices. Record negative values as 0. Then use the following system to obtain the child's score:

Right Minus Wrong	Score
6	2
5	1
0-4	0

Maximum item score: 2

5. (Rescramble all of the blocks).

LUEGO LE PEDI A__________: AHORA HALLA TODOS LOS AMARILLOS GRANDES Y PONLOS EN ESTA TARJETA. NO SE TE OLVIDE HALLAR TODOS LOS AMARILLOS GRANDES.

HAY 2 BLOQUES AMARILLOS GRANDES (Put them on the card). ¿CUANTOS DE ESTOS DOS BLOQUES AMARILLOS GRANDES PIENSA UD. QUE__________PUSO EN LA TARJETA?

TOME NOTA DE QUE HAY 10 BLOQUES MAS QUE NO SON AMARILLOS Y GRANDES. ¿CUANTOS, SI ALGUNO, DE ESTOS (point) PIENSA UD. QUE__________PUSO EN ESTA TARJETA (point) POR ERROR/ERRONEAMENTE?

Score: Subtract the number of wrong choices from the number of right choices. The child's score is the number of rights minus wrongs. If this results in a negative value, record it as 0.

Maximum item score: 2

6. (Rescramble all the blocks).
LUEGO LE DIJE A____________: AHORA VE CUANTOS ROJOS REDONDOS Y GRANDES PUEDES HALLAR. NO SE TE OLVIDE, ESTAS BUSCANDO LOS ROJOS REDONDOS.
¿PIENSA UD. QUE____________ESCOGIO SOLO EL BLOQUE GRANDE Y REDONDO (pick it out) YA QUE ESTE ES EL UNICO GRANDE Y REDONDO, Y/O PIENSA UD. QUE EL/ELLA ESCOGIO OTROS BLOQUES?

Score: 1 point if prediction is that the big round red block is the only one chosen.

Maximum item score: 1

7. (Place the small blue square and all of the large blocks except the large blue square (a total of 6 blocks) on the cardboard in a random fashion. Scramble remaining blocks. and place on the table).
LUEGO LE PREGUNTE A__________: ¿CUAL DE ESTOS EN LA TARJETA (point toward the card) NO VA CON LOS DEMAS EN LA TARJETA?
¿PIENSA UD. QUE____________ESCOGIO SOLO EL CUADRADO AZUL (pick it out) YA QUE ES EL UNICO BLOQUE QUE ES PEQUEÑO Y/O PIENSA UD. QUE EL/ELLA ESCOGIO OTROS BLOQUES?

Score: 1 point if the child selects only the small blue square

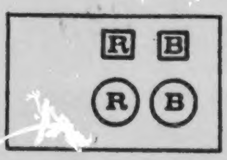
Maximum item score: 2

8. (Use the same blocks as for item 7, but remove the small blue square from the cardboard).
LUEGO LE DIJE A_________: ¿CUAL DE ESTOS VA MEJOR CON EL RESTO EN LA TARJETA? (point to the scrambled blocks) HALLALO Y PONLO EN LA TARJETA.
¿PIENSA UD. QUE___________ESCOGIO SOLO EL CUADRADO GRANDE Y AZUL (pick it out) YA QUE ESTE ES EL UNICO BLOQUE QUE ES GRANDE Y QUE VA CON EL RESTO DE ESTOS OTROS GRANDES (point to card) Y/O PIENSA UD. QUE EL/ELLA ESCOGIO OTROS BLOQUES?

Score: 1 point if the child selects only the large blue square.

Maximum item score: 1

9. (Remove the blocks from the cardboard. Arrange the large red and blue circles and the small red and blue squares on the cardboard as shown in Child Manual (p.138). Scramble the other blocks and palce them near the parent).



LUEGO HICIMOS LA ULTIMA ACTIVIDAD. PARA ESTA ACTIVIDAD LE DIJE A_______________:
¿CUAL DE ESTOS DOS AQUI (point to the scrambles blocks) VA MEJOR CON LOS DEMAS EN LA TARJETA? HALLA LOS DOS Y PONLOS EN LA TARJETA.
¿PIENSA UD. QUE__________ESCOGIO EL CIRCULO GRANDE Y AMARILLO (pick it up and place on card next to other 2 circles) YA QUE ESTE BLOQUE VA MEJOR CON ESTOS OTROS DOS CIRCULOS GRANDES Y/O PIENSA UD. QUE EL/ELLA ESCOGIO OTRO BLOQUE U OTROS BLOQUES?
¿PIENSA UD. QUE__________ESCOGIO EL CUADRADO PEQUEÑO Y AMARILLO (pick it up and place it on card next to other 2 squares) YA QUE ESTE BLOQUE VA MEJOR CON LOS OTROS BLOQUES EN LA TARJETA Y/O PIENSA UD. QUE EL/ELLA ESCOGIO OTRO BLOQUE O BLOQUES?

Score: 2 points if the parent predicts child selected both correct blocks (large yellow circle and small yellow square)

1 point if the parent predicts 1 correct block and 1 incorrect block, or no other blocks

0 points if the parent predicts child selected more than 2 blocks (even if the 2 correct blocks are included), or if parent selects 2 incorrect blocks

Maximum item score: 2

APPENDIX 4a

Family Data Questionnaire--English

FAMILY DATA QUESTIONNAIRE

1. Please provide the following information on the children in your family.

Child	Sex	Birthdate	Children Living in Home	Place of Birth	Child's Preferred Language
1					
2					
3					
4					
5					
6					
7					
8					

(Use reverse side if additional space is needed.)

2. Where were you born? ________________ / What is your ethnic background? ________

If outside of U.S.: How long have you lived in the United States? ________________

3. How old are you? ________________________________

4. Are you presently married? Yes______ No______ If no, are you

____Divorced
____Widow
____Never Married
____Other

5. Is your husband present in the home? ________________________________

Where was he born? (Whether present or not) ________________________

If outside of U.S.: How long has he lived in the United States? ________________

6. Are there any other persons, besides your husband and children who live in your home?
Yes______ No______

If yes,: What are their ages and relationship to you?

Relationship	Age	Sex

7. A. How long have you lived in the __________ area? ___________

B. How long have you lived in your present home? ____________

8. Are you renting or buying your dwelling? ________ renting ________buying

9. Are you presently employed? Yes_______ No_______

10. Do you work full-time ________, part-time _______, once in awhile _______?

Employer Job Title

______________________________ ______________________________

Job description ("What do you do?"): ______________________________

____

If no, : How long have you been unemployed? ______________________________

What is your usual occupation? ______________________________

11. Is your husband presently employed? Yes _____ No_____

12. Does he work full-time________, part-time_________, once in awhile__________?

Employer Job Title

______________________________ ______________________________

Job description ("What does he do?"): ______________________________

____

If no, : How long has he been unemployed? ______________________________

What is his usual occupation? ______________________________

13. What is the highest grade of formal schooling which you completed?

1 2 3 4 5 6 7 8 9 10 11 12 College: 1 yr. 2 yrs. 3 yrs. 4 yrs. Grad School

14. Where did you last attend school? (Do not count Adult Education or Night School)

____

15. What is the highest grade of formal schooling completed by your husband?

1 2 3 4 5 6 7 8 9 10 11 12 College: 1 yr. 2 yrs. 3 yrs. 4 yrs. Grad School

16. Where did your husband last attend school? (Do not count Adult Education or Night School) ______________________________

17. (If applicable) How many of your children have graduated from high school? ____ College?_______

18. What is the language most often spoken in the home by:

Yourself?____________________________________

Your husband?________________________________

19. What is the language most often spoken outside the home by:

Yourself?____________________________________

Your husband?________________________________

20. What is the language most often spoken to your child (the preschool child who is the subject of the study) by:

Yourself?____________________________________

Your husband?________________________________

APPENDIX 4b

Family Data Questionnaire--Spanish

CUESTIONARIO DE DATOS FAMILIARES

1. Por favor de la siguiente información sobre los niños en su familia.

Niño(a)	Sexo	Fecha de Nacimiento	Niños que Viven en Casa	Lugar de Nacimiento	Idioma Preferido del niño / niña
1					
2					
3					
4					
5					
6					
7					
8					

2. ¿Dónde nació usted? ________________ / ¿Cuál es su nacionalidad? ________________

If outside of U.S.: ¿Cuánto tiempo tiene de vivir en Los Estados Unidos?

3. ¿Cuántos años tiene usted? ________________

4. ¿Está casada actualmente? Sí________ No________ Si no, es usted
___Divorciada
___Viuda
___Nunca se ha casado
___Otro

5. ¿Se encuentra en casa su esposo? ________________

¿Dónde nació él? (Encuéntrese presente o no) ________________

If outside of U.S.: ¿Cuánto tiempo tiene él de vivir en Los Estados Unidos?

____

6. ¿Hay otras personas, aparte de su esposo y niños que viven en su casa?

Sí______ No______

If yes,: ¿Cuáles son las edades y el parentesco con usted?

Parentesco	Edad	Sexo

7.A. ¿Cuánto timepo tiene de vivir en el área de_____________?

B¿Cuánto tiempo tiene de vivir en esta casa? ___________________________

8. ¿Está pagando alquiler o es dueña de su casa? ______alquiler ______dueña

9. ¿Está trabajando actualmente? Sí __________ No________

10. ¿Trabaja usted todo el tiempo _____, parte del tiempo _____, de vez en cuendo _______?

Patrón ________________________________ Título de trabajo ____________________________

Descripción del trabajo (¿Qué hace usted?) ____________________________

____

If no,: ¿Cuánto tiempo tiene de estar sin trabajo? ____________________

¿Cuál es su ocupación usualmente?____________________________

11. ¿Su esposo se encuentra empleado? Sí ________ No________

12. ¿Trabaja todo el tiempo ______, parte del tiempo ________, de vez en cuando ______?

Patrón ________________________________ Título de trabajo ____________________________

Descripción del trabajo (¿Qué hace usted?) ____________________________

____

If no,: ¿Cuánto tiempo tiene de estar sin trabajo? ____________________

¿Cuál es su ocupación usualmente? ____________________________

13. ¿Cuál es el grado más alto de educación formal que usted terminó?

1 2 3 4 5 6 7 8 9 10 11 12 Colegio: 1 año 2 años 3 años 4 años Escuela Graduada

14. ¿Dónde fue usted a la escuela la última vez? (Do not count Adult Education or Night School)

____

15. ¿Cuál es el grado más alto de educación que su esposo terminó?

1 2 3 4 5 6 7 8 9 10 11 12 Colegio: 1 año 2 años 3 años 4 años Escuela Graduada

16. ¿Dónde fue su esposo a la escuela la última vez? (Do not count Adult Education or Night School)

____

17. (If applicable) ¿Cuántos de sus hijos se han graduado de la escuela secundaria? __________ ¿Colegio? __________

18. ¿Qué idioma se habla con más frecuencia en la casa por:

usted? ______________________________

su esposo? ______________________________

19. ¿Qué idioma se habla con más frecuencia fuera de la casa por:

usted? ______________________________

su esposo? ______________________________

20. ¿En qué idioma se la habla con más frecuencia a su niño(a) (the preschool child who is the subject of the study) por:

usted? ______________________________

su esposo? ______________________________

APPENDIX 5a

HELPS-R--English

HELPS
INTERVIEW SCHEDULE

Introduction

Hello, my name is ____________________. I am assisting researchers in the Center for Chicano Studies at the University of California by gathering some information which may help to develop better educational programs for parents and their young children. We are especially interested in knowing more about the experiences which preschool children and their families have in different kinds of communities. The people involved in this project hope that such information will make it possible for them to help schools improve their programs for preschool children and their parents.

I'd like to begin by asking you some questions about (CHILD), and things you do together. There are no "right" or "wrong" answers to these questions. We know that all children and their families do things differently, and we're interested in knowing your answers. Please answer each question as well as you can. If you are not sure, please answer in the best way or the closest way you can. If you don't understand a question, just ask me and I'll try to explain it to you. Okay? Let's begin.

1. I know it will be some time before (CHILD) enrolls in the school system, but I'd like to get some ideas about how you generally expect he/she will do in school. What kind of letter grades do you expect (CHILD) to get in school?

less than C's	mostly C's	mostly B's with some C's	mostly B's with some A's	mostly A's

Preface: Next, I would like to ask some questions about your family's free time activities:

2. Besides the activities at preschool, how often does (CHILD) go to some educational place such as a museum, a children's play, or story hour at the library?

once a year or less	about twice a year	about 3-4 times a year	about once or twice a month	at least once a week

3. Besides preschool field trips, how often does (CHILD) go to some recreational place such as a zoo, a park, or the beach?

once a year or less	about twice a year	about 3-4 times a year	about once or twice a month	at least once a week

4. About how often do you take (CHILD) on a trip out of town?

______ once a year or less
______ about twice a year
______ about 3-4 times a year
______ about once or twice a month
______ at least once a week

On these trips what kinds of places did you visit?

5. About how often do you take (CHILD) along with you when you go shopping? (Any kind of shopping, for example, shopping for clothes, groceries, furniture, etc.)

______ less than once a month
______ about once a month
______ about twice a month
______ about once a week
______ about twice a week

6. About how often does (CHILD) see you reading? (anything)

______ less than twice a month
______ about twice a month
______ about once a week
______ about twice a week
______ almost every day

7. About how often would you say that (CHILD) sees you reading a novel, or some other book?

______ less than twice a month
______ about twice a month
______ about once a week
______ about twice a week
______ almost every day

8. About how often do you or any other person read to (CHILD)?

______ less than once a week
______ about once a week
______ about twice a week
______ about 3-4 times a week
______ almost every day

9. Does (CHILD) have any of his/her own books?

☐ yes ☐ no

About how many books does he/she have? ______

______ ______ ______ ______ ______

Can you name some specific titles or the content of the books?

10. About how often does (CHILD) ask you to play games with him/her?

less than once a month	about once a month	about twice a month	about once a week	almost every day

What kinds of toys and games does (CHILD) have?
(Attempt to get respondent to name specific toys and games)

11. About how many newspapers and different types of magazines (give examples) do you have in your home? (These needn't be subscriptions) __________

__________ __________ __________ __________ __________

12. About how often do you read the newspaper?

less than twice a month	about twice a month	about once a week	about twice a week	almost every day

13. About how often do you watch the news on television?

less than twice a month	about twice a month	about once a week	about twice a week	almost every day

14. About how often do you talk to (CHILD) about things he/she has seen on TV?

less than twice a month	about twice a month	about once a week	about twice a week	almost every day

15. About how often do you suggest that (CHILD) watch some educational TV program such as Sesame Street, Captain Kangaroo, or Villa Alegre?

less than twice a month	about twice a month	about once a week	about twice a week	almost every day

16. How often do you attend social gatherings? (eg: family gatherings, dances, church activities).

____ less than once a month	____ about once a month	____ about twice a month	____ about once a week	____ about twice a week

17. How many organizations and/or clubs do you belong to? (eg: Service clubs, PTA, Church groups, Community political organizations, unions)

____ 0	____ 1	____ 2	____ 3	____ 4 or more

18. (IF APPLICABLE) How many organizations and/or clubs does your husband belong to? (eg: Service clubs, PTA, Church groups, Community political organizations, unions)

____ 0	____ 1	____ 2	____ 3	____ 4 or more

19. How often do you take part in a community action or political activity? (eg: Casa de la Raza, Concilio, etc.)

____ less than once a year	____ about once a year	____ about twice a year	____ about once a month	____ about once a week

20. About how often do you discuss (CHILD'S) preschool progress with his/her teacher?

____ once a year or less	____ about twice a year	____ about once a month	____ about twice a month	____ about once a week

21. (IF APPLICABLE) About how often do you and your husband discuss (CHILD'S) progress in school?

____ less than twice a month	____ about twice a month	____ about once a week	____ about twice a week	____ almost every day

22. What are some of the things that (CHILD) does that you praise and approve of?

What are some of the ways you show your approval?

23. Have you helped (CHILD) to use words and sentences correctly?

☐ yes ☐ no

Could you please give some examples of how you do this?

About how often do you help (CHILD) to use words and sentences correctly?

less than twice a month	about twice a month	about once a week	about twice a week	almost every day

24. (IF APPLICABLE) How often does (CHILD) help his/her father when he is working around the house? (help can also be a "play-help")

less than once a month	about once a month	about twice a month	about once a week	about twice a week

25. When you are working around your house, how often does (CHILD) help?

less than once a month	about once a month	about twice a month	about once a week	about twice a week

Now I would like to ask you some questions that are a little bit different. Remember there are no right or wrong answers. We know that all children and their families do some things the same and other things differently, and we are interested in your particular attitudes and opinions.

I am going to read each of the following questions with you and then I would like you to choose the answer that best describes your opinion. If you don't understand the question ask me and I'll try to explain it.

Each question is set up like a scale. I'm going to read through the question with you, and then I want you to mark the answer which best indicates how you would answer the question. Let's start by going through an example.

EXAMPLE:

How important do you think it will be for (CHILD) to graduate from high school?

____________	____________	____________	____________	____________
very important	important		not very important	unimportant

(Interviewer points to extremes of scale and reads them out loud. Interviewer then points to the intermediate choices and explains thet they describe answers "in between" the extremes.)

Response Sample #1

(Interviewer explains that if "very important" tells best how the parent would answer the question, she would mark the answer like this sample.)

X				
very important	important		not very important	unimportant

(Interviewer then goes through all of the possible answers, making sure that the respondent understands each category of the scale. The middle category is left unlabelled on each question. The interviewer should explain that this answer lies halfway between the two extremes of the scale.)

Response Sample #2

				X
very important	important		not very important	unimportant

Response Sample #3

		X		
very important	important		not very important	unimportant

Response Sample #4

	X			
very important	important		not very important	unimportant

Response Sample #5

			X	
very important	important		not very important	unimportant

The words on the scales for each of the following questions are different, but the idea is the same. You place your "X" in one of the blanks along the scale to show how you would answer the question.

PLEASE ANSWER EVERY QUESTION.

26. When (CHILD) has a chance to choose what to do around the house, how often does he/she choose to look at a book or a magazine?

almost always	quite often		not often	never

27. If (CHILD) asks a you a question you can't answer, how often do you try to find the answer by looking in a book?

never	not often		quite often	almost always

28. How often does (CHILD) play that he/she is grownup?

very often	often		not often	never

29. How often does (CHILD) play house?

never	not often		often	very often

30. In your opinion, how important do you think a college education will be for (CHILD'S) future?

unimportant	not very important		important	very important

Preface to 31: How old was ______________ when he/she started attending preschool? ________

31. How important was it to you to help (CHILD) learn anything about his/her numbers or to print his/her name before he/she started preschool?

very important	important		not very important	unimportant

32. How important was it to you to help (CHILD) learn or recognize a few letters or simple written words before he/she started preschool?

unimportant	not very important		important	very important

33. About how often do you tell your friends or family members about some "smart" or "cute" thing (CHILD) has said or done?

very often	often		not often	never

34. When (CHILD) goes someplace with you, how important is it to you to try to point out things which he/she may not have noticed before?

very important	important		not very important	unimportant

35. How often do you explain to (CHILD) what steps must come first, second, and so on, in doing something that is new for him/her.

never	not often		often	very often

Now on these questions, just tell me the answer in your own words.

36. Do you see any particular differences in the educational needs of boys and girls? (Elaborate)

37. How much education do you wish (CHILD) to complete?

38. The question I just asked you had to do with your wishes. We all know that in the real world we may or may not get what we wish for. Sometimes there are things that might help us or prevent us from getting our wishes. Keeping this in mind how much education do you think (CHILD) will complete?

(If parent's response to question 38 was lower than the response to question 37)

Why do you think that (CHILD) will actually complete less education than you would like for him/her to complete?

39. There are many Mexican-American parents, teachers, and politicians who believe that the present school system (Kindergarten through sixth grade) is not meeting the educational needs of Mexican-American children. In your opinion, does the present school system satisfy the needs of Mexican-American children?

☐ yes ☐ no ☐ don't know

(If no) In your opinion, how could the present educational system be improved?

(If yes) In which ways is the school system satisfying the needs of Mexican-American children

(If don't know, try probing) Can you think of one or two ways in which you are satisfied with the schools in how they teach Mexican-American children?

APPENDIX 5b

HELPS-R--Spanish

HELPS
INTERVIEW SCHEDULE

Introducción

Quisiera comenzar haciéndole algunas preguntas sobre______________y sobre las cosas que ustedes hacen juntos (as). Estas preguntas no requieren respuestas "correctas" o "incorrectas". Sabemos que todos los niños y sus familias hacen cosas distintas y nosotros tenemos interés en conocer sus respuestas. Si no está segura de algo, por favor conteste de la mejor manera posible. Si no entiende alguna de las preguntas, dígame y yo le explicaré. ¿De acuerdo? Comencémos.

1. Yo sé que todavía falta tiempo para que____________sea matriculado(a) en el sistema escolar, pero quisiera tener una idea de cómo espera ud. que él/ella funcione en la escuela. ¿Qué calificaciones/notas espera ud. que_____________saque?

________	________	________	________	________
menos de C	principalmente C	principalmente B con algunas C	principalmente B con algunas A	principalmente A

Prefacio: Ahora quisiera hacerle algunas preguntas sobre las actividades de su familia durante los ratos libres.

2. Además de las actividades en la escuela pre-primaria, ¿cada cuánto va_________________ a algún sitio educacional como a un museo, una obra teatral para niños, o a la hora de cuentos en la biblioteca?

________	________	________	________	________
una vez al año	alrededor de dos veces al año	alrededor de 3-4 veces al año	alrededor de una o dos veces al mes	por lo menos una vez a la semana

3. Además de las excursiones escolares, ¿cada cuánto va________________a algún sitio de recreación como un zoológico, un parque, o la playa?

________	________	________	________	________
una vez al año	alrededor de dos veces al año	alrededor de 3-4 veces al año	alrededor de una o dos veces al mes	por lo menos una vez a la semana

4. ¿Cada cuánto lleva ud. a____________en viajes fuera de la ciudad?

una vez al año	alrededor de dos veces al año	alrededor de 3-4 veces al año	alrededor de una o dos veces al mes	por lo menos una vez a la semana

¿Qué sitios visita cuando hace estos viajes?

5. ¿Cuántas veces lleva ud. a_____________las tiendas cuando va de compras? (cualquier clase de compras, por ejemplo, ropa, comida, muebles, etc.)

menos de una vez al mes	alrededor de una vez al mes	alrededor de dos veces al mes	alrededor de una vez a la semana	alrededor de dos veces a la semana

6. ¿Cuántas veces la ve____________leyendo? (cualquier cosa)

menos de dos veces al mes	alrededor de dos veces al mes	alrededor de una vez a la semana	alrededor de dos veces a la semana	casi todos los días

7. ¿Cuántas veces diría ud. que______________la ve leyendo una novela u otro libro?

menos de dos veces al mes	alrededor de dos veces al mes	alrededor de una vez a la semana	alrededor de dos veces a la semana	casi todos los días

8. ¿Cuántas veces le lee ud. o cualquier otra persona a______________?

menos de una vez a la semana	alrededor de una vez a la semana	alrededor de dos veces a la semana	alrededor de 3-4 veces a la semana	casi todos los días

9. ¿Tiene_____________sus propios libros?

☐ yes ☐ no

¿Cómo cuantos libros tiene él/ella?_____________

¿Puede dar algunos títulos específicos de los libros o su contenido?

10. ¿Cómo cuantas veces le pide______________que juegue con él/ella?

______ menos de una vez al mes	______ alrededor de una vez al mes	______ alrededor de dos veces al mes	______ alrededor de una vez a la semana	______ alrededor de dos veces a la semana

¿Qué clase de juguetes tiene______________?
(Attempt to get respondent to name specific toys and games)

11. ¿Cómo cuantos periódicos y revistas distintas tiene ud. en su casa? (no tienen que ser de subscripción)_______________

________ ________ ________ ________ ________

12. ¿ Cada cuánto lee ud. el periódico?

______ menos de dos veces al mes	______ alrededor de dos veces al mes	______ alrededor de una vez a la semana	______ alrededor de dos veces a la semana	______ casi todos los días

13. ¿Cada cuánto ve ud. las noticias en la televisión?

______ menos de dos veces al mes	______ alrededor de dos veces al mes	______ alrededor de una vez a la semana	______ alrededor de dos veces a la semana	______ casi todos los días

14. ¿Cómo cuantas veces le habla ud. a _______________de las cosas que él/ella ha visto en la televisión?

______ menos de dos veces al mes	______ alrededor de dos veces al mes	______ alrededor de una vez a la semana	______ alrededor de dos veces a la semana	______ casi todos los días

15. ¿Cuántas veces le sugiere ud. a_______________que vea un programa educacional en la televisión, como Sesame Street, Captain Kangaroo, o Villa Alegre?

menos de dos veces al mes	alrededor de dos veces al mes	alrededor de una vez a la semana	alrededor de dos veces a la semana	casi todos los días

16. ¿Cada cuánto asiste ud. a reuniones sociales? (ejemplo: reuniones familiares, bailes, actividades de la iglesia).

menos de una vez al mes	alrededor de una vez al mes	alrededor de dos veces al mes	alrededor de una vez a la semana	alrededor de dos veces a la semana

17. ¿A cuántas organizaciones pertenece ud.? (ejemplo: clubs de servicios, PTA, grupos de iglesias, organizaciones políticas de la comunidad, sindicatos/uniones)

0	1	2	3	4 or more

18. (IF APPLICABLE) ¿A cuántas organizaciones o clubes pertenece su esposo? (ejemplo: clubs de servicios, PTA, grupos de iglesias, organizaciones políticas de la comunidad, sindicatos/uniones)

0	1	2	3	4 or more

19. ¿Cada cuánto participa ud. en alguna acción de la comunidad o alguna actividad política? (ejemplo: Casa de la Raza, Concilio, etc.)

menos de una vez al año	alrededor de una vez al año	alrededor de dos veces al año	alrededor de una vez al mes	alrededor de una vez a la semana

20. ¿Cómo cuantas veces discute ud. el progreso de_____________en la escuela pre-primaria con la/el maestra(o)?

una vez al año o menos	alrededor de dos veces al año	alrededor de una vez al mes	alrededor de dos veces al mes	alrededor de una vez a la semana

21. (IF APPLICABLE) ¿Cómo cuantas veces discute ud. el progreso de___________en la escuela pre-primaria con su esposo?

menos de dos veces al mes	alrededor de dos veces al mes	alrededor de una vez a la semana	alrededor de dos veces a la semana	casi todos los días

22. ¿Cuáles son algunas de las cosas que hace_________de las que usted está orgullosa y con las cuales usted está de acuerdo?

¿Cuáles son las formas en que usted le muestra su aprobación?

23. ¿Le ha ayudado usted a________a usar palabras y oraciones correctamente?

☐ yes ☐ no

¿Me podría dar ejemplos de cómo ha hecho esto?

¿Cada cuánto le ayuda usted a___________a usar palabras y oraciones correctamente?

menos de dos veces al mes	alrededor de dos veces al mes	alrededor de una vez a la semana	alrededor de dos veces a la semana	casi todos los días

24. (IF APPLICABLE) ¿Cada cuánto le ayuda ___________a su padre cuando este se encuentra trabajando en la casa? (la ayuda puede ser "de juego")

menos de una vez al mes	alrededor de una vez al mes	alrededor de dos veces al mes	alrededor de una vez a la semana	alrededor de dos veces a la semana

25. Cuando usted está trabajando en su casa, ¿Cuántas veces le ayuda___________?

____________ menos de una vez al mes	____________ alrededor de una vez al mes	____________ alrededor de dos veces al mes	____________ alrededor de una vez a la semana	____________ alrededor de dos veces a la semana

Ahora quiero hacerle algunas preguntas sobre cosas diferentes. Recuerde que no hay respuestas correctas o incorrectas. Todos sabemos que todos los niños y sus familias hacen cosas distintas y cosas iguales, y nosotros estamos interesados en su actitud particular y su opinión personal.

Voy a leer cada una de las siguientes preguntas con usted y después quiero que usted escoja la respuesta que describe mejor su opinión. Si usted no entiende la pregunta, por favor dígame y yo se la explicaré.

Cada pregunta es como una escala. Voy a leer las preguntas con usted, y quiero que usted marque la respuesta que describa mejor la forma en que usted contestaría. Comencemos con un ejemplo.

EJEMPLO:

¿Qué tan importante es para usted que ____________ se gradue de la escuela secundaria?

______________	____________	_______________	____________	____________
muy importante	importante		sin mucha importancia	sin importancia

(Interviewer points to extremes of scale and reads them out loud. Interviewer then points to the intermediate choices and explains that they describe answers "in between" the extremes.)

Ejemplo de Respuesta #1

(Interviewer explains that if "very important" tells best how the parent would answer the question, she would mark the answer like this sample.)

X				
muy importante	importante		sin mucha importancia	sin importancia

(Interviewer then goes through all of the possible answers, making sure that the respondent understands each category of the scale. The middle category is left unlabelled on each question. The interviewer should explain that this answer lies halfway between the two extremes of the scale.)

Ejemplo de Respuesta #2

				X
muy impotante	importante		sin mucha importancia	sin importancia

Ejemplo de Respuesta #3

		X		
muy importante	importante		sin mucha importancia	sin importancia

Ejemplo de Respuesta #4

	X			
muy importante	importante		sin mucha importancia	sin importancia

Ejemplo de Respuesta #5

			X	
muy importante	importante		sin mucha importancia	sin importancia

The words on the scales for each of the following questions are different, but the idea is the same. You place your "X" in one of the blanks along the scale to show how you would answer the question.

POR FAVOR CONTESTE TODAS LAS PREGUNTAS.

26. Cuando __________tiene la oportunidad de ayudar en la casa, ¿Cuántas veces escoge ver un libro o una revista?

casi siempre	muy a menudo		no muy a menudo	nunca

27. Si__________le hace una pregunta que usted no puede contestar ¿Cuántas veces trata usted de buscar la respuesta en un libro?

nunca	no muy a menudo		muy a menudo	casi siempre

28. ¿Cuántas veces juega__________a que es una persona mayor?

muy a menudo	a menudo		no muy a menudo	nunca

29. ¿Cada cuánto juega__________casita?

nunca	no muy a menudo		a menudo	muy a menudo

30. En su opinión ¿Cuán importante piensa ud. que será la educación universitaria para el futuro de __________?

sin importancia	sin mucha importancia		importante	muy importante

Preface to 31: ¿Cuántos años tenía__________cuando comenzó ir a la escuela pre-primaria?
primaria?

31. ¿Qué importancia tuvo para usted que_____ _____aprendiera sobre números o a escribir su nombre antes de que comezara ir a la escuela pre-primaria?

muy importante	importante		sin mucha importancia	sin importancia

32. ¿Qué importancia tuvo para ud. el ayudarle a__________a que aprendiera a reconocer unas pocas letras o palabras simples escritas antes de que comenzara la pre-primaria?

sin importancia	sin mucha importancia		importante	muy importante

33. ¿Cómo cada cuánto le dice usted a sus amigos o miembros de la familia sobre las cosas que hace o dice__________que son "inteligentes" o "graciosas"?

muy a menudo	a menudo		no muy a menudo	nunca

34. Cuando__________sale con usted ¿Qué importancia tiene para usted el decirle a él/ella sobre cosas en las que no se haya fijado anteriormente?

muy importante	importante		sin mucha importancia	sin importancia

35. ¿Cuántas veces le explica usted a__________sobre los diferentes pasos que se tienen que tomar para hacer algo que él/ella nunca ha hecho anteriormente?

nunca	no muy a menudo		a menudo	muy a menudo

Para estas preguntas que siguen, por favor deme la respuesta en sus propias palabras,

36. ¿Ve usted algunas diferencias en las necesidades en la educación de niños y niñas? (Elabore)

37. ¿Cuánta educación desea ud. que__________reciba/o complete?

38. La pregunta que le acabo de hacer tiene que ver con sus deseos. Todos sabemos de que en la vida real unas cosas se alcanzan y otras no. Muchas veces hay cosas que no nos dejan realizar nuestros deseos. Teniendo esto en cuenta, ¿Cuánta educación piensa ud. que_________llegará a completar?

(If parent response to question 38 was lower than the response to question 37)
¿Por qué piensa ud. que__________completará menos años de educación de los que a usted le gustaría que él/ella completara?

39. Hay muchos padres Mexicano-Americanos, maestros, políticos, que creen que el sistema de educación actual (de Kinder hasta el sexto grado) no satisface las necesidades de los niños Mexicano-Americanos. En su opinión, ¿Piensa ud. que el sistema de ducación actual sí satisface las necesidades de los niños Mexicano-Americanos?

☐ sí ☐ no ☐ no sé

(if no) En su opinión, ¿En que forma se podría mejorar el sistema de educación actual?

(if yes) ¿En que forma o formas satisface el sistema de educación las necesidades de los niños Mexicano-Americanos?

(if don't know, try probing) ¿Puede ud. pensar en una o dos cosas con las que ud. se encuentra satisfecha en cuanto a la forma en que se le enseña a los niños Mexicano-Americanos?